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**National Highway  
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400 Seventh Street, S.W.  
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TRANSPORTATION SCIENCES CENTER  
ACCIDENT RESEARCH GROUP

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██████████, New York 14225

CALSPAN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION

CALSPAN CASE NO. 92-4

VEHICLE - 1986 FORD TEMPO GL

LOCATION - ██████████, TN

ACCIDENT DATE - ██████████ 1991

Contract No. DTNH22-87-C-27169

Prepared for:

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
Washington, D.C. 20590



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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the precrash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

# TECHNICAL REPORT STANDARD TITLE PAGE

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16. Abstract This on-site investigation focused on an air bag deployment crash that involved a 1986 Ford Tempo GL. The right frontal area of the vehicle impacted a wooden utility pole on ██████████ 1991. The 12 o'clock direction of force impact crushed the bumper to a maximum depth of 14.75" which yielded a CRASHPC computed velocity change of 16.7 mph. As a result of the crash, the driver air bag system deployed. The driver of the vehicle was a 57 year old female with a reported height of 66" and weight of 150 lbs. She was in a forward driving position with her seat adjusted 3" rearward of its full forward position. The driver lost control of the vehicle as she began to cough and therefore was probably pitched forward of her normal driving position. At impact, the steering wheel was rotated approximately 180° due to a driver steering input and tire contact with a 5" curb. The driver's abdominal area loaded the lower rim which deformed the rim 3.25" forward. As a result, she sustained an abdominal contusion (AIS-1) and a ruptured spleen (AIS-3). She impacted the lower instrument panel with her knees and the windshield with her head; however, these contacts did not result in injury. The driver loaded the air bag with her thoracic area which resulted in bilateral breast contusions (AIS-1). Her lower face contacted the bag which abraded her chin and lacerated her lower lip (AIS-1). The driver was transported by ambulance to a ██████████ where she expired approximately 4 hours following the crash.					
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# CALSPAN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION

CALSPAN CASE NO. 92-4

VEHICLE - 1986 FORD TEMPO GL  
LOCATION - [REDACTED] TN

## SUMMARY

This on-site investigation focused on a single vehicle air bag deployment crash that occurred in [REDACTED] TN on [REDACTED] 1991, during daylight hours. The involved vehicle was a 1986 Ford Tempo GL, 4 dr. sedan (former insurance fleet vehicle) with an odometer reading of 83,678.5 miles and V.I.N.: [REDACTED]. The driver/owner of the vehicle was a 57 year old female with a reported height of 66" and weight of 150 lbs. She had purchased the vehicle from a local dealer on [REDACTED] 1990, and was the vehicle's third owner.

The crash occurred on a two lane city street in a posted 30 mph speed zone. The asphalt road surface was straight with a slight positive grade to the west. The vehicle was traveling in a westerly direction at an unknown, but reasonable rate of speed. The driver reportedly (police report) began to cough and lost control of the vehicle. She probably applied an unintentional clockwise steering input which caused the vehicle to drift to the right. The right front tire probably contacted a 5" barrier curb which deflected the front tires and rotated the steering wheel approximately 180° from the 12 o'clock position. It was unknown if the driver braked in an attempt to avoid the crash.

The right frontal area of the vehicle impacted a small diameter utility pole that was located 1' outboard of the curbline. Impact speed was computed at 14.0 mph by the damage and trajectory algorithm of the CRASHPC program. Direct contact damage began 5.6" right of center and extended 8" to the right on the front bumper face. Maximum crush was 14.75" and was located 13.1" right of center. The vehicle underwent a velocity change of 16.7 mph which was sufficient to deploy the vehicle's driver air bag system.

The driver of the vehicle was in a forward seated position pre-crash with her seat adjusted 3" rearward of its full forward position. She was probably forward of her normal driving position due to the coughing and was positioned within a close proximity to the steering wheel at impact. The driver was reportedly (police and EMT reports) wearing the active 3-point lap and shoulder belt system; however, there was no evidence of loading on the shoulder belt webbing or system hardware. She initiated a forward trajectory with respect to the vehicle in response to the 12 o'clock impact force. Her left knee contacted and deformed the lower instrument panel 21.5-24.5" left of center. The driver's right knee contacted the knee bolster 6.5-10.5" left of center. The contact abraded the plastic component and displaced the right side of the bolster 0.5" forward. No knee injury resulted from the contact points. Her abdominal area contacted the lower steering wheel rim (wheel was rotated 180° at impact) and deformed the rim to a depth of 3.25". She sustained

### SUMMARY (CONT'D.)

ecchymosis of the upper abdominal area (AIS-1) and a ruptured spleen (AIS-3) from loading the lower rim. The driver's thoracic area contacted the deployed air bag which resulted in bilateral breast contusions (AIS-1) with no underlying thoracic injuries. Her loading force against the steering wheel rim and the deployed air bag compressed the energy absorbing column 1.1" (shear capsule separation). The driver's lower face probably contacted the upper surface of the air bag which abraded her chin (AIS-1) and lacerated her lower lip (AIS-1). Her head pitched over the top of the bag and contacted the windshield 6.5-9" right of center. The contact, which did not result in injury, cracked the laminated glass and deposited tissue transfers 4.75-7.5" above the upper instrument panel. The air bag subsequently contacted the windshield, which produced vertically orientated fabric transfers on the windshield 13-19" left of center.

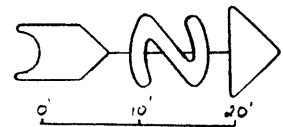
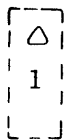
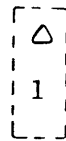
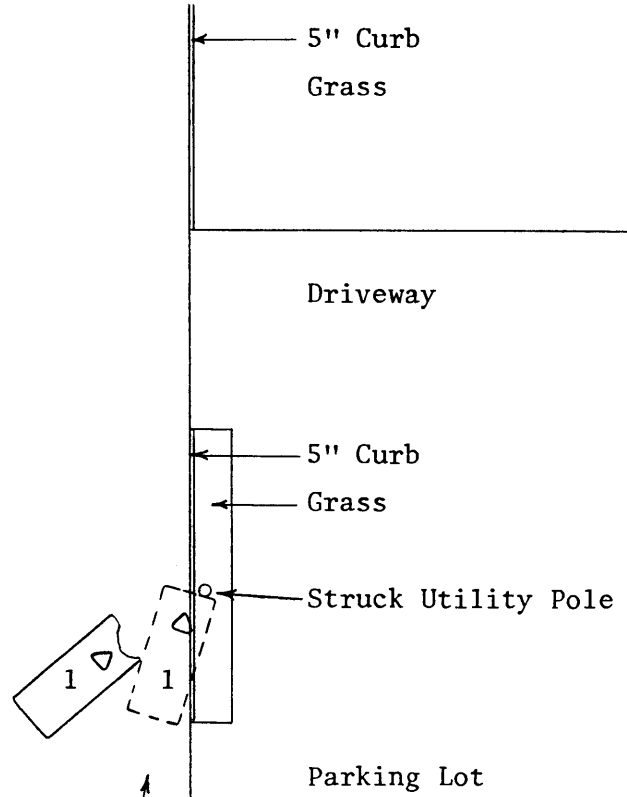
The driver rebounded into the left front seat back where she came to rest in an upright attitude. She was removed from the vehicle by rescue personnel and transported by ambulance to a [REDACTED] where she expired following surgery for removal of the spleen.

The air bag inflation module contained large amounts of generant residue (whitish powder) which encircled the pressed fitment joints on both sides of the inflator assembly. Similar deposits were also visible on the radial inflation ports and filter screens of the inflator. Residue deposits were also visible on the inside surface of the air bag adjacent to the inflator assembly.

Accident Schematic  
Calspan Case No. 92-4

Vehicle:

#1 - 1986 Ford Tempo GL,  
4 Dr. Sedan



Scale 1"=20'

CALSPAN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION

CALSPAN CASE NO. 92-4

VEHICLE - 1986 FORD TEMPO GL  
LOCATION - [REDACTED], TN

ACCIDENT DATA

Location: Local street  
City/Township: [REDACTED] TN  
Area/Type: Urban/Commercial  
Accident Date/Time: February 1, 1991, daylight hours  
Investigating Police Agency: [REDACTED] Police Department  
Accident Type: Car/Utility pole, right frontal impact  
Air Bag Vehicle Driver Injury Severity: Serious (AIS-3)

AMBIENCE

Viewing Conditions: Daylight  
Weather: Overcast  
Precipitation: Unknown  
Road Surface: Wet

HIGHWAY

Type: Local street  
Number of Lanes: 2  
Width: 38'6"  
Surface: Asphalt  
Median: None  
Edge: North edge - Asphalt parking lot  
South edge - 5" barrier curb

## HIGHWAY (CONT'D.)

Vertical Alignment:	Level
Horizontal Alignment:	Straight
Estimated Coefficient of Friction:	.70
Traffic Density:	Light

## TRAFFIC CONTROLS

Signals:	None
Signs:	No pertinent signs
Markings:	None
Speed Limit:	30 mph

## VEHICLE

Description:	1986 Ford Tempo GL, 4 dr. sedan
V.I.N.:	1FACP22X0GK
Color:	Light blue
Odometer:	83,678.3 miles
Engine:	4 cylinder, 2.3 liter
Transmission:	3-speed automatic, floor mounted transmission selector lever
Steering:	Power assisted rack-and-pinion
Brakes:	Power front disc/rear drum
Padding:	Upper, mid, and lower instrument panel, sunvisors, soft edged steering wheel rim and air bag module cover, door panels, door armrests, adjustable head restraints
Active Restraints:	3-point lap and shoulder belts in the left front and right front seated positions, 3 rear seat lap belts
Passive Restraints:	Driver air bag system that deployed as a result of the right frontal impact sequence with a utility pole
Tow Status:	Towed due to vehicle damage



## VEHICLE DAMAGE

### Exterior:

The Ford Tempo sustained moderate frontal damage as a result of its impact sequence with the wooden utility pole. Maximum crush was 14.75" located on the bumper face 13.1" right of center. Direct contact damage began 5.6" right of center and extended 8.0" to the right. The impact deformed the entire frontal width of the vehicle which resulted in a combined induced and direct contact damage length of 48". Crush values at bumper level were as follows:  $C_1=0"$ ,  $C_2=2.0"$ ,  $C_3=6.0"$ ,  $C_4=10.375"$ ,  $C_5=12.0"$ ,  $C_6=5.75"$ .

Components damaged by the narrow frontal impact sequence included the front bumper, grille, right headlamp assembly, hood, radiator and radiator support panel, and the air conditioning condensor. The impact crushed the bumper to a V-configuration which displaced the front frame rails laterally inward. As a result of the rail displacement, the right front air bag crash sensor was rotated both inward and upward. The left crush sensor was rotated slightly clockwise.

The windshield was cracked as a result of impact induced stress and occupant contact. All doors remained closed and operational post-crash. The right wheelbase was reduced in size by 3.1"; however, the right front wheel was not locked by damage.

### CDC:

#### Object Struck

12-FZEN-2

Utility pole

### Repair Cost:

Total loss

### Interior:

The interior of the Ford Tempo sustained moderate damage as a result of the crash forces and driver contact with interior components. The driver's left knee impacted the lower instrument panel immediately below the light switch. The contact produced a fabric patterned abrasion to the padded component 21.5-24.5" left of center and 11.5-15" below the upper instrument panel and deformed the panel to a depth of 1.25". Her right knee impacted the right side of the knee bolster and deposited a blue/black fabric transfer with an abrasion to the plastic panel. The contact, which was located 6.5-10.5" left of center and 13.75-14.875" below the upper panel, displaced the right side of the bolster 0.5" forward. The driver's abdominal area loaded the upper edge of the steering wheel rim as the wheel was rotated approximately  $180^\circ$ . Her loading force displaced the rim 3.25" forward and compressed the energy absorbing steering column 1.1" (shear capsule separation). The deformable bracket of the steering column had a residual displacement of 0.75". The driver's right hand probably separated from

## VEHICLE DAMAGE (CONT'D.)

Interior  
(Cont'd.):

the steering wheel rim and impacted the upper instrument panel 4.75-7.5" left of center. The suspected contact produced a partial separation of the padded panel from the rigid instrument cluster panel. A 1.6" longitudinal crack was also noted to the padded panel at the area of probable contact. The driver's right arm/elbow area contacted the center mid instrument panel which deposited a blue fabric transfer adjacent to the right side of the ventilation louver. The contact also deformed the temperature control lever to the right. Her forehead area impacted the windshield 6.5-9" left of center and 6.5-8.25" above the upper instrument panel. A tissue transfer evidenced the contact which also cracked the laminated glass. Vertical transfers were noted to the windshield 13-19" left of center and 4.75-9.25" above the upper panel. The transfers appeared to be a white fabric and were probably produced by the air bag.

The driver's seat was adjusted to a forward position and rotated approximately 15° in a counterclockwise direction as a result of the crash forces. There was no intrusion of the passenger compartment.

## VEHICLE VELOCITY ESTIMATES

Impact Speed: 14.0 mph

Total  $\Delta V$ : 16.7 mph

Longitudinal  $\Delta V$ : -16.7 mph

Lateral  $\Delta V$ : 0.0 mph

Energy Absorption: 26516.4 ft.lbs.

The above velocity estimates were computed by the damage and trajectory mode of the CRASHPC program using an estimated final rest position of the vehicle.

## RESTRAINT SYSTEMS

The 1986 Ford Tempo was equipped with a factory installed driver air bag system that deployed as a result of the vehicle's frontal impact sequence with the utility pole (longitudinal  $\Delta V$  of -16.7 mph). The vehicle was originally purchased as a fleet vehicle for a major insurance company. A private party subsequently purchased the vehicle and held ownership for approximately 9 months. The crash-involved driver purchased the vehicle from a dealer in [REDACTED] on [REDACTED], 1990. The service history of the vehicle and air bag system was unknown.

## RESTRAINT SYSTEMS (CONT'D.)

The air bag module assembly had been removed from the vehicle prior to our on-site inspection. The module was properly removed from the steering wheel without damage. The air bag was intact with no cuts or tears of the bag fabric. There was no evidence of driver contact on the bag (i.e., makeup transfers, etc.). Several faint stains which appeared to be blood were observed on the face of the bag.

The air bag was of normal construction and measured approximately 23" in diameter in its deflated state. The bag was a tethered design and there was no damage to the internal tether straps or to the center reinforcement area of the bag. The air bag was vented by two ports located on the back side of the bag at the 10 and 4 o'clock positions. The air bag and module assembly were identified by the following numbers:

[REDACTED]  
[REDACTED]

The exterior surface of the inflator module contained large amounts of a whitish powder substance which appeared to be generant residue. The residue encircled the pressed fitment joints on both sides (front and back) of the inflator module. Large amounts of the residue were also visible on the radial inflation ports and filtering screens. A large deposit of the residue was also visible on the inside surface of the air bag adjacent to the inflator assembly.

The active 3-point lap and shoulder belt system was also removed from the vehicle prior to our inspection of the vehicle. The belt system was intact with no parts removed from the assembly. The latchplate was heavily scratched on both sides which indicated frequent usage of the belt system. The inertia reel retractor was equipped with a detent adjustor (window shade) which allowed the driver to adjust the tension of the shoulder belt webbing across their torso. The system operated properly at the time of our inspection.

The belt system was reinstalled in the vehicle and the inertia retractor was tested. With the belt webbing extended to various adjustment points, the retractor assembly was impacted by hand. The inertia locking mechanism performed properly and locked the belt webbing on each test.

There was no evidence of occupant loading (i.e., belt stretching, D-ring transfers, etc.) on the belt system or restraint hardware.

## COLLISION SEQUENCE

### Pre-Crash:

The 1986 Ford Tempo was traveling in a westerly direction on the two lane street at an unknown, but reasonable rate of speed in the 30 mph speed zone. The driver reportedly began to cough and applied an unintentional clockwise steering input to the vehicle. The Ford Tempo drifted off the right roadedge and probably struck the 5" barrier curb with the right front wheel. The curb contact deflected the front tires which rotated the steering wheel approximately 180°. It was unknown if the driver attempted to brake to avoid the impending crash.

## COLLISION SEQUENCE (CONT'D.)

**Crash:** The right frontal area of the vehicle impacted a wooden utility pole that was located 1' outboard of the right (south) roadedge. An estimated impact speed of 14.0 mph was computed by the damage and trajectory algorithm of the CRASHPC program. The vehicle crushed to a maximum depth of 14.75" and underwent a velocity change of 16.7 mph from the 12 o'clock direction of force impact. As a result of the impact induced deceleration, the driver air bag system deployed.

The right frontal impact rotated the vehicle in a clockwise direction as it rebounded from the struck pole. The [REDACTED] [REDACTED] officer reported that the vehicle came to rest approximately 15' from the struck pole.

### **Post-Crash:**

**Final Rest -** The vehicle came to rest diagonally across the westbound travel lane, facing in a northwesterly direction.

**Driver Activities -** The driver remained in the vehicle following the crash and waited for emergency personnel to arrive on-scene.

**Police Activities -** The [REDACTED] department was notified immediately of the crash. The investigating officer was dispatched and arrived on-scene within minutes of the crash to initiate his investigation.

**Rescue Activities -** A rescue squad was dispatched immediately following notification of the crash and arrived on-scene within minutes. The emergency medical technicians attended to the driver within the vehicle and removed her from the vehicle on a backboard. She was subsequently transported by ambulance to a [REDACTED] that was located within 1 mile of the crash scene.

**Scene Clearance -** Following the investigating officer's on-scene investigation, a local towing service removed the vehicle from the scene and normal traffic flow was restored.

## HUMAN FACTORS/OCCUPANT DATA

**Driver:** 57 year old female

**Height:** 66"

**Weight:** 150 lbs.

**Active Restraint System Usage:** 3-point lap and shoulder belt system

**Usage Source:** Vehicle inspection, police and EMT reports

#### HUMAN FACTORS/OCCUPANT DATA

Eyeglasses:	Prescription eyeglasses, not damaged, unknown if displaced from face
Vehicle Familiarity:	13 months, purchased vehicle [REDACTED] 1990, was 3rd owner
Route Familiarity:	Unknown
Trip Plan:	Unknown
Manner of Leaving Scene:	Ambulance
Type of Medical Treatment:	Transported to a [REDACTED] [REDACTED] where she expired following surgery for removal of her spleen

#### DRIVER INJURIES

<u>Injury</u>	<u>Severity (OIC/AIS)</u>	<u>Source</u>
Ruptured spleen with extensive hemorrhage	Serious (MLRQ-3)	Lower steering wheel rim
5-7 cm contusion of the anterior left breast	Minor (CLCI-1)	Air bag and/or shoulder belt webbing
Ecchymosis of the right breast	Minor (CRCI-1)	Air bag
Ecchymosis of the upper abdomen	Minor (MSCI-1)	Steering wheel rim
Abrasion to chin	Minor (FIAI-1)	Air bag
Laceration to lower lip	Minor (FILI-1)	Air bag

#### DRIVER KINEMATICS

The driver of the 1986 Ford Tempo was in a forward driving position with her seat adjusted 3" rearward of its full forward position. The investigating police officer and emergency medical technicians both noted on their reports that the driver was wearing the active 3-point lap and shoulder belt. A witness to the crash also stated that the driver was belted as he approached the vehicle. There was no evidence of driver loading on the belt webbing or system hardware.

The driver lost control of her vehicle as she began to cough. At impact, she was probably slightly forward of her normal driving position due to the coughing. She responded to the 12 o'clock impact force by initiating a forward trajectory with respect to the vehicle. Her left knee impacted the lower left instrument panel below the headlight switch 21.5-24.5" left of center. The contact deformed the padded panel to a depth of 1.25" and produced a fabric patterned abrasion to the vinyl surface. The driver's right knee contacted the knee bolster near the right edge which displaced the bolster 0.5" forward. A blue/black fabric transfer with an abrasion evidenced the contact area, 6.5-10.5" left of center. The driver did not sustain injury, or complain of pain to the knees or lower extremities.

#### DRIVER KINEMATICS (CONT'D.)

Due to the driver's forward position at impact, her upper abdominal area loaded the lower edge of the steering wheel rim (wheel was rotated 180° at impact) and deformed the rim 3.25" forward. Her contact with the soft edged steering wheel rim resulted in ecchymosis of the upper abdominal area and a ruptured spleen. Her torso contacted the deployed driver's air bag which resulted in bilateral breast contusions. As a result of her loading force against the steering wheel rim and the deployed air bag, the energy absorbing steering column compressed 1.1" (shear capsule compression).

The driver's lower facial area probably contacted the upper portion of the air bag which resulted in an abrasion of the chin and a laceration of the lower lip.

The driver's forehead area pitched over the top of the air bag and impacted the windshield 6.5-9" left of center. The contact cracked the laminated glass and deposited tissue transfers on the glass 6.5-9" above the upper panel. No injury resulted from her contact with the windshield. Vertically oriented fabric transfers were noted to the windshield 13-19" left of center which resulted from air bag contact with the glass.

The driver's right hand separated from the steering wheel rim and impacted the upper instrument panel 4.75-7.5" left of center. Although no injury occurred, the padded panel was partially separated from the plastic mid panel and a 1.625" longitudinal crack of the vinyl extended from the struck area, forward toward the windshield. Her right arm probably flexed at the elbow as she continued on her forward trajectory. The driver's right elbow area probably contacted the center mid instrument panel area and heater controls. A blue fabric transfer was noted adjacent to the air conditioning on/off switch and the temperature control lever was displaced to the right. No injury was noted on the medical record from this contact sequence.

The driver rebounded into the left front seat back where she came to rest in an upright position. She was subsequently removed from the vehicle by rescue personnel and was transported by ambulance to a [REDACTED] [REDACTED]. The emergency medical technicians noted on their report that the driver complained of pain to the left shoulder and substernal chest areas. The driver also complained of breathing difficulties.

Upon arrival at the hospital, C-spine and chest X-rays were performed. The results of both were unremarkable (no visible injury). The cervical collar was removed which helped to relieve the victim's breathing difficulties. The driver's blood pressure was low and the medical staff administered intravenous fluids. Her condition continued to deteriorate and she was taken to the operating room at 1200 hours for an emergency splenectomy. She expired in the intensive care unit following the surgery, approximately 4 hours post-crash. The driver had a medical history which included hepatic cirrhosis, diabetes, and heart disease which contributed (per the attending physician) to her death.

SELECTED PRINTS



Pre-Crash Trajectory Of The 1986 Ford Tempo.





Struck Utility Pole.



Lookback View Of The Vehicle's Trajectory.





Frontal Damage To The Ford Tempo.



Closeup View Of The Pole Impact Damage.





Left Front Three-Quarter View.



Left Perpendicular View Showing The Extent Of Crush.





Right Front Three-Quarter View.



Right Perpendicular View Showing The Extent of Crush.





Rearward Displacement (3.1") Of The Right Front Axle Position.



Front Right Air Bag Crash Sensor.



Overall Interior Views From The Left Door Area.





Driver's Trajectory And Interior Contact Points.



Driver Knee Contacts To The Lower Instrument Panel And Knee Bolster.



Left Knee Contact To The Lower Instrument Panel.



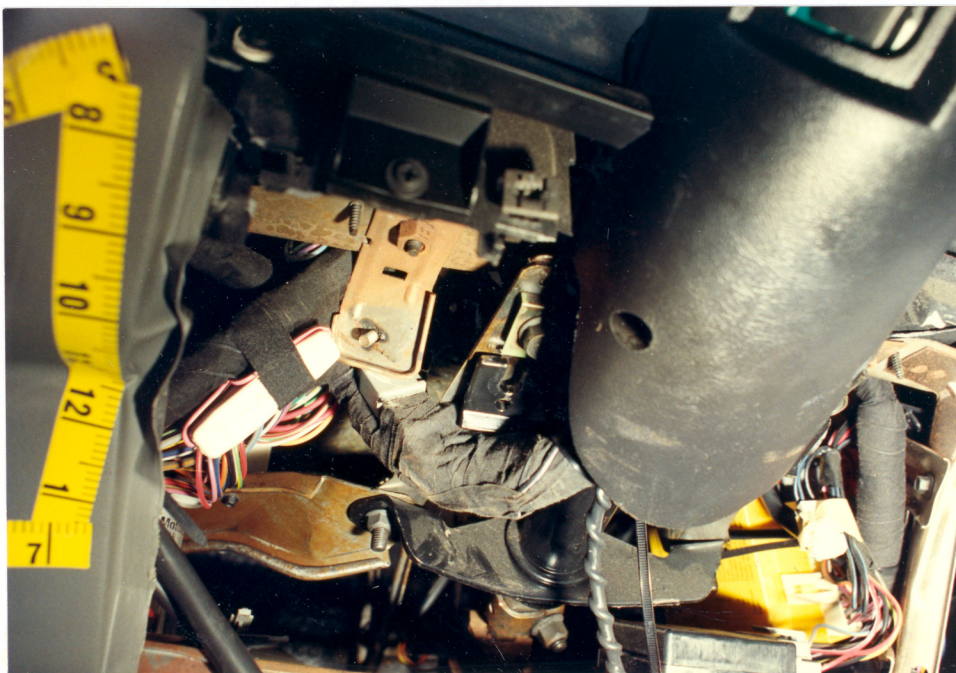


Right Knee Contact To The Knee Bolster.

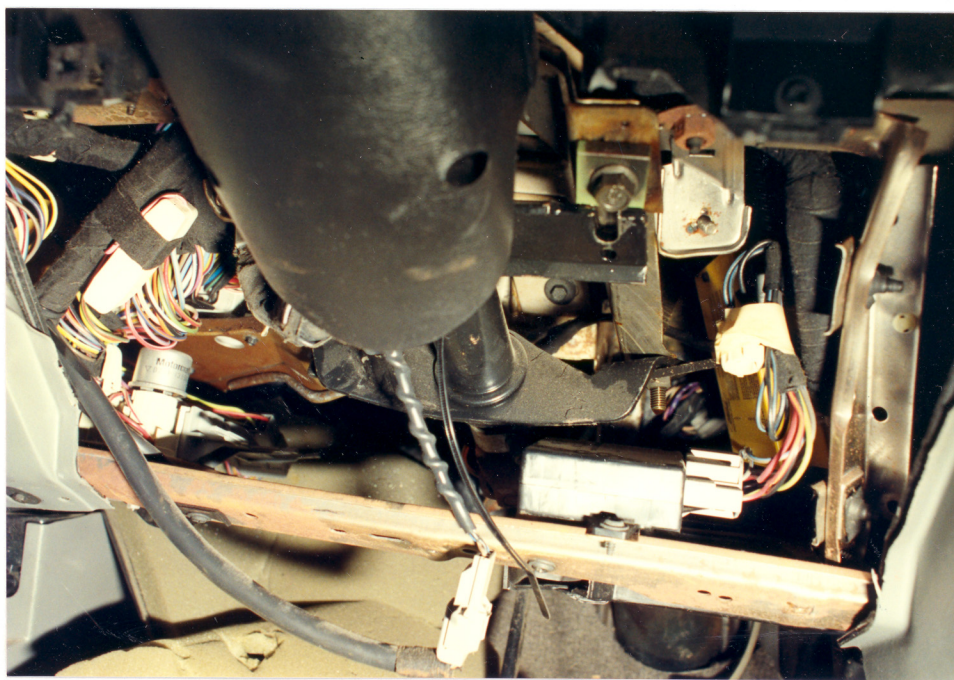


Driver's Abdominal Loading Of The Steering Wheel Rim  
(Wheel Was Rotated 180° At Impact).





Left Shear Capsule Separation And Bending Of The Deformable Bracket.



Right Shear Capsule Separation.



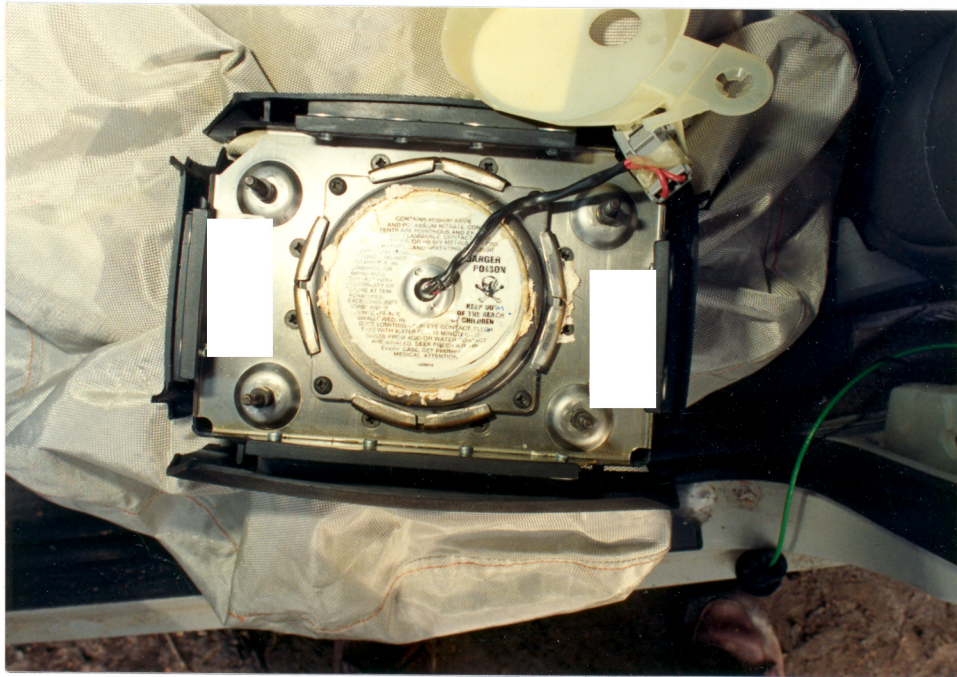


Probable Air Bag Contact To The Windshield.



Driver Forehead Contact To The Windshield (Tissue Transfer).





Backside Views Of The Air Bag Inflator Housing.

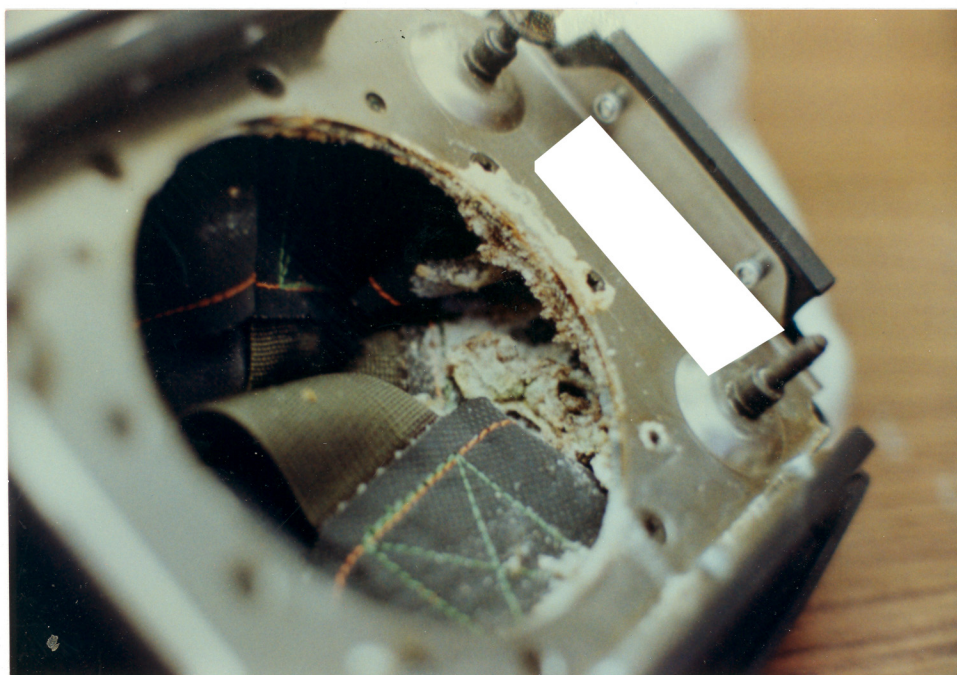


Generant Residue Deposits On The Inflator Ports.





Air Bag Side Of The Inflation Module.



Generant Residue On The Inside Surface Of The Air Bag.

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39	Probable arm/elbow contact to heater controls
40	Air bag placard
41	Driver's seat and active belt system
42,43	Active belt system
44	View across the interior from the left door area
45,46	Views across the interior from the right door area
47	Backside of the air bag inflation module

Vehicle:

PC - 1986 Ford Tempo GL,  
4 Dr. Sedan





AGE 32  
SEX Male  
WT. 158 lbs.  
HT. 5'7"

Examination of the lower  
lip (445-11), air bag

Abnormal to the  
nose (445-11),  
air bag

Examination of the  
right breast  
(445-11), air bag

5-7 cm constriction of  
the inferior vena  
cava (445-11), air bag

Impaired vision with  
extensive hemorrhage  
(445-11), viewing ahead  
via

Examination of the upper  
abdomen (445-11), viewing  
ahead via





CA 9204 #3  
Best Available



CA 9204 #4  
Best Available



CA 9204 #5  
Best Available



CA 9204 #6  
Best Available



CA9204 #7  
Best Available



CA 9204 #8



**CA 9204 #9**  
**Best Available**





CA 9204 #10  
Best Available



**CA 92D4 #11**  
**Best Available**



CA9204 #12



CA 9204 #13



CA 9204 #14



CA9204 #15



CA 9204 #16



CA9204 #17





CA9204 #18



CA 9204 #19



CA9204 #20



CA9204 #21



CA 9204 #22  
Best Available



**CA 9204 #23**  
**Best Available**



CA 9204 #24  
Best Available





CA 9204 #25  
Best Available



CA 9204 #26  
Best Available



CA 9204 #27  
Best Available



CA 9204 #28  
Best Available



CA9204 #29  
Best Available



CA 9204 #30  
Best Available



CA9204 #31  
Best Available



CA 9204 #32  
Best Available





CA 9204 #33  
Best Available



CA 9204 #34  
Best Available



CA 9204 #35  
Best Available



CA 9204 #36



CA9204 #37



CA 9204 #38



CA 9204 #39



CA 9204 #40  
Best Available





CA9204 #41



CA 9204 #42



CA 9204 #43



**CA 9204 #44**  
**Best Available**



CA 9204 #45  
Best Available



CA 9204 #46  
Best Available



**MANUFACTURE**  
**CASE NUMBER**  
**YEAR**

Calspan

Ca 9204

1992

# SLIDES

**THE FOLLOWING SLIDE(S) ARE NOT INCLUDED IN THIS CASE:**

**SLIDE NUMBER(S)**

47

APPENDIX A

Police Accident Report

## UNIFORM TRAFFIC ACCIDENT REPORT

PAGE 1 of 2

DO NOT USE THIS BLOCK		DOCUMENT CONTROL NUMBER (DO NOT USE)				LOCAL AGENCY USE		REFERENCE NUMBER			
REPORTING AGENCY 1 <input type="checkbox"/> THP 3 <input type="checkbox"/> SO 2 <input checked="" type="checkbox"/> CPD 4 <input type="checkbox"/> OTHER				NAME OF INVESTIGATING AGENCY Police Dept				HIT AND RUN? 1 <input type="checkbox"/> YES 2 <input checked="" type="checkbox"/> NO		SOLVED? 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO	
DATE OF ACCIDENT MO. DAY YR. 9/1		DAY OF ACCIDENT SUN M T W THU F S 1 2 3 4 5		TIME OF ACCIDENT		POLICE NOTIFIED 1 <input checked="" type="checkbox"/> AM		POLICE ARRIVED 5:45 AM		INVESTIGATION COMPLETE? 1 <input checked="" type="checkbox"/> YES 2 <input type="checkbox"/> NO	
TYPE ACCIDENT 1 <input checked="" type="checkbox"/> FATAL 2 <input type="checkbox"/> INJURY 3 <input type="checkbox"/> DAMAGE		PROPERTY DAMAGE		TOTAL VEHICLES 1		TOTAL KILLED 0		TOTAL INJURED 1		TOTAL UNINJURED 0	
COUNTY		CODE		IN/OR		MILES		CITY		CODE	
OCCURRED ON STREET HWY. NAME OR ROUTE NUMBER Ave				SR. NO.		AT INTERSECTION WITH				SR. NO.	
OR. NEAREST INTERSECTION, BRIDGE, RR CROSSING (HOUSE NO.—CITY ONLY) 315				FEET OR MILES		N E S W		MILE POST		POSTED SPEED VEH 1 VEH 2 30	
1 <input checked="" type="checkbox"/> NON-INTERSECTION 2 <input type="checkbox"/> INTERSECTION		3 <input type="checkbox"/> RR XING		4 <input type="checkbox"/> BRIDGE 5 <input type="checkbox"/> UNDERPASS		6 <input type="checkbox"/> RAMP 7 <input type="checkbox"/> PRIVATE PROPERTY		TENN. DEPT. OF TRANSPORTATION USE ONLY CO. NO. ROUTE NUMBER SPC CASE CO. SEQ. LOG NO.			
VEH. 1		YEAR 85		MAKE Ford		MODEL Tempo		COLOR Blue		BODY TYPE 4 DR	
LICENSE PLATE NO.		STATE KY		YEAR 90		VEH. PULLING TRAILER? 1 <input type="checkbox"/> YES 2 <input checked="" type="checkbox"/> NO		TRAILER CODE		VEH. DISABLED? 1 <input checked="" type="checkbox"/> YES 2 <input type="checkbox"/> NO	
VEHICLE GOING N S E W		ON		OFFICER'S ESTIMATED AMOUNT OF DAMAGE 1 <input type="checkbox"/> UNDER \$200 2 <input type="checkbox"/> \$200-\$500 3 <input checked="" type="checkbox"/> OVER \$500		"X" POINT OF INITIAL IMPACT (Shade Damaged Areas)					
DRIVER'S FIRST NAME		LAST		DOB. MO. DAY YR.		DRIVER LICENSE NO.		STATE KY			
DRIVER'S ADDRESS		CITY		STATE		ZIP		TELEPHONE NO.			
LICENSE TYPE 1 <input checked="" type="checkbox"/> OPERATOR 2 <input type="checkbox"/> CHAUFFEUR		3 <input type="checkbox"/> NONE 4 <input type="checkbox"/> OTHER		CONDITION CODE(S)		CONDITIONS COMPLIED WITH? 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO		SEX 1 <input type="checkbox"/> M 2 <input type="checkbox"/> F		RACE 1 <input type="checkbox"/> WHITE 2 <input type="checkbox"/> BLACK 3 <input type="checkbox"/> OTHER	
OWNER'S NAME		FIRST MI LAST		DOB. MO. DAY YR.		DRIVER LICENSE NO.		STATE			
OWNER'S ADDRESS		CITY		STATE		ZIP		TELEPHONE NO.			
VEH. 2		YEAR		MAKE		MODEL		COLOR		BODY TYPE	
LICENSE PLATE NO.		STATE		YEAR		VEH. PULLING TRAILER? 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO		TRAILER CODE		VEH. DISABLED? 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO	
VEHICLE GOING N S E W		ON		OFFICER'S ESTIMATED AMOUNT OF DAMAGE 1 <input type="checkbox"/> UNDER \$200 2 <input type="checkbox"/> \$200-\$500 3 <input type="checkbox"/> OVER \$500		"X" POINT OF INITIAL IMPACT (Shade Damaged Areas)					
DRIVER'S FIRST NAME		LAST		DOB. MO. DAY YR.		DRIVER LICENSE NO.		STATE			
DRIVER'S ADDRESS		CITY		STATE		ZIP		TELEPHONE NO.			
LICENSE TYPE 1 <input type="checkbox"/> OPERATOR 2 <input type="checkbox"/> CHAUFFEUR		3 <input type="checkbox"/> NONE 4 <input type="checkbox"/> OTHER		CONDITION CODE(S)		CONDITIONS COMPLIED WITH? 1 <input type="checkbox"/> YES 2 <input type="checkbox"/> NO		SEX 1 <input type="checkbox"/> M 2 <input type="checkbox"/> F		RACE 1 <input type="checkbox"/> WHITE 2 <input type="checkbox"/> BLACK 3 <input type="checkbox"/> OTHER	
OWNER'S NAME		FIRST MI LAST		DOB. MO. DAY YR.		DRIVER LICENSE NO.		STATE			
OWNER'S ADDRESS		CITY		STATE		ZIP		TELEPHONE NO.			
CITATIONS ISSUED? 1 <input type="checkbox"/> YES 2 <input checked="" type="checkbox"/> NO		DRIVER NO.		COURT DIV.		COURT DATE		CITATION NO.			
INVESTIGATING OFFICER RANK & NAME (Print Name)		BADGE/ID NO.		DIST./ZONE		CAR NO.		REPORT DATE MO. DAY YR.			



DO NOT USE THIS BLOCK		DOCUMENT CONTROL NUMBER (DO NOT USE)		COMPLAINT NO		PAGE 2 of 2								
VEH NO <u>#1</u> <input checked="" type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME <u>[REDACTED]</u>		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input checked="" type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR <u>[REDACTED]</u> ZIP <u>[REDACTED]</u> TAKEN TO <u>[REDACTED]</u> BY <u>[REDACTED]</u> MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)		51	M	0	11	YES	YES	YES	YES	YES	YES	YES	POS
VEH NO _____ <input type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME _____		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____ TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)			M	0		YES	YES	YES	YES	YES	YES	POS	
VEH NO _____ <input type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME _____		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____ TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)			M	0		YES	YES	YES	YES	YES	YES	POS	
VEH NO _____ <input type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME _____		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____ TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)			M	0		YES	YES	YES	YES	YES	YES	POS	
VEH NO _____ <input type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME _____		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____ TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)			M	0		YES	YES	YES	YES	YES	YES	POS	
VEH NO _____ <input type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME _____		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____ TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)			M	0		YES	YES	YES	YES	YES	YES	POS	
VEH NO _____ <input type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME _____		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____ TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)			M	0		YES	YES	YES	YES	YES	YES	POS	
VEH NO _____ <input type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME _____		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____ TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)			M	0		YES	YES	YES	YES	YES	YES	POS	
VEH NO _____ <input type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME _____		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____ TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)			M	0		YES	YES	YES	YES	YES	YES	POS	
VEH NO _____ <input type="checkbox"/> 1 DRIVER <input type="checkbox"/> 2 PASSENGER <input type="checkbox"/> 3 PEDESTRIAN	NAME _____		Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Alcohol			Drug	
	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____ TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)			M	0		YES	YES	YES	YES	YES	YES	POS	

**LIST BELOW ALL CHILD PASSENGERS UNDER FOUR (4) YEARS OF AGE**

VEH NO	NAME	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____	TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)	Age	Sex	Injury Code	Seating Position	Ejected	Seat Belt	Helmet	Held	CHILD RESTRAINT		
												Available	Used	Used
VEH NO _____	NAME _____	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____	TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)	Yrs	M	0		YES	YES	YES	YES	YES	YES	YES
				Mos	F	2								
VEH NO _____	NAME _____	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____	TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)	Yrs	M	0		YES	YES	YES	YES	YES	YES	YES
				Mos	F	2								
VEH NO _____	NAME _____	ADDRESS SAME AS ( <input type="checkbox"/> DRIVER/ <input type="checkbox"/> OWNER) OF VEHICLE OR _____ ZIP _____	TAKEN TO _____ BY _____ MEDICAL FACILITY (AMBULANCE SERVICE NAME OR PRIVATE PARTY)	Yrs	M	0		YES	YES	YES	YES	YES	YES	YES
				Mos	F	2								

W  
I  
T  
N  
E  
S  
S

(1) Name [REDACTED] Age 47 Race W Sex M  
 Address [REDACTED]  
 (Business Phone) \_\_\_\_\_ (Residence Phone) \_\_\_\_\_

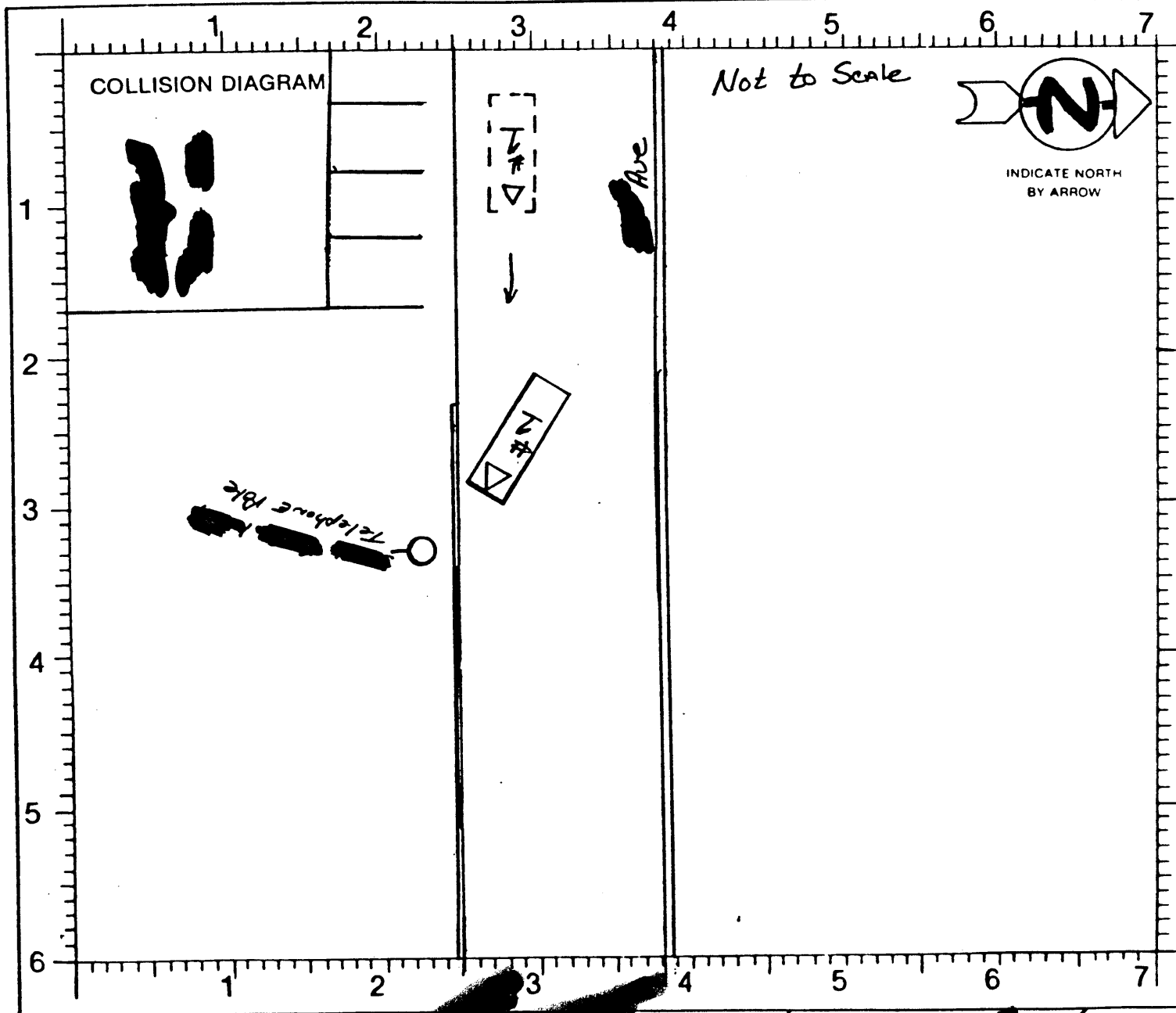
(2) Name [REDACTED] Age 22 Race W Sex F  
 Address [REDACTED]  
 (Business Phone) \_\_\_\_\_ (Residence Phone) \_\_\_\_\_

(3) Name \_\_\_\_\_ Age \_\_\_\_\_ Race \_\_\_\_\_ Sex \_\_\_\_\_  
 Address \_\_\_\_\_

DESCRIBE WHAT HAPPENED:

REFERENCE NUMBER

Driver of Vehicle #1 started  
 coughing, causing her to lose control of vehicle, striking  
 [REDACTED] Telephone Pole. Vehicle bounced 15' off  
 of pole, before coming to final resting point. Vehicle was  
 traveling East on [REDACTED] Ave. Witness talk with Driver  
 immediately after impact.



INVESTIGATOR'S SIGNATURE

DATE

## APPENDIX B

### CRASHPC Output

(Damage And Trajectory Algorithm)

# SUMMARY OF CRASHPC RESULTS (USING SPINOUT)

## CRASH RECONSTRUCTION

IMPACT SPEED		TOTAL (MPH)	LONG. (MPH),	LAT. (MPH)	
(DAMAGE	VEH #1	14.0	14.0	.0	
AND SPINOUT)	VEH #2	.0	.0	.0	
SPEED CHANGE		TOTAL (MPH)	LONG. (MPH)	LAT. (MPH)	ANG. (DEG)
(DAMAGE)	VEH #1	16.7	-16.7	.0	.0
	VEH #2	.0	.0	.0	.0

ENERGY DISSIPATED BY DAMAGE VEH#1: 26516.4 FT-LB VEH#2: .0 FT-LB

## SCENE INFORMATION

	VEHICLE # 1	VEHICLE # 2
IMPACT X-POSITION	-7.00 FT.	4.20 FT.
IMPACT Y-POSITION	-1.20 FT.	.00 FT.
IMPACT HEADING ANGLE	.00 DEG.	180.00 DEG.
REST X-POSITION	-12.20 FT.	4.20 FT.
REST Y-POSITION	-10.10 FT.	.00 FT.
REST HEADING ANGLE	33.00 DEG.	180.00 DEG.
DIRECTION OF ROTATION	CW	NONE
AMOUNT OF ROTATION	<360	<360

## SUMMARY OF DAMAGE DATA VEHICLE # 1

TYPE-----CATEGORY 2  
 STIFFNESS---CATEGORY 9  
 WEIGHT-----2548.0 LBS.  
 CDC-----12FREN2  
 L-----54.0 IN.  
 C1----- .0 IN.  
 C2----- 2.0 IN.  
 C3----- 6.0 IN.  
 C4-----10.4 IN.  
 C5-----14.8 IN.  
 C6----- 5.8 IN.  
 D----- 9.6  
 RHO-----1.00 \*  
 ANG----- .0 DEG.  
 D'-----17.9 IN.

## (\* INDICATES DEFAULT VALUE) VEHICLE # 2

TYPE-----CATEGORY 11  
 STIFFNESS---CATEGORY 0  
 WEIGHT-----1000000.0 LBS. \*  
 CDC-----BARRIER  
 L----- .0 IN. \*  
 C1----- .0 IN. \*  
 C2----- .0 IN. \*  
 C3----- .0 IN. \*  
 C4----- .0 IN. \*  
 C5----- .0 IN. \*  
 C6----- .0 IN. \*  
 D----- .0 \*  
 RHO-----1.00 \*  
 ANG----- .0 DEG. \*  
 D'----- .0 IN.



## COLLISION CONDITIONS

## VEHICLE # 1

XC10' = -7.0 FT.  
 YC10' = -1.2 FT.  
 PSI10 = .0 DEG.  
 PSI1D0 = .0 DEG/SEC  
 BETA1 = .0 DEG.

## VEHICLE # 2

XC20' = 4.2 FT.  
 YC20' = .0 FT.  
 PSI20 = 180.0 DEG.  
 PSI2D0 = .0 DEG/SEC  
 BETA2 = .0 DEG.

## SEPARATION CONDITIONS (USING SPINOUT)

## VEHICLE # 1

US1 = -2.7 MPH  
 VS1 = -9.9 MPH  
 PSISD1 = 42.2 DEG/SEC

## VEHICLE #2

US2 = .0 MPH  
 VS2 = .0 MPH  
 PSISD2 = .0 DEG/SEC

## DIMENSIONS AND INERTIAL PROPERTIES

A1	=	46.3	IN.	A2	=	50.0	IN.
B1	=	50.1	IN.	B2	=	50.0	IN.
TR1	=	54.6	IN.	TR2	=	50.0	IN.
I1	=	19550.6	LB-SEC**2-IN	I2	=	2600104000.0	LB-SEC**2-IN
M1	=	6.625	LB-SEC**2/IN	M2	=	2600.104	LB-SEC**2/IN
XF1	=	83.3	IN.	XF2	=	50.0	IN.
XR1	=	-91.6	IN.	XR2	=	-50.0	IN.
YS1	=	33.6	IN.	YS2	=	50.0	IN.

## DIMENSIONS AND INERTIAL PROPERTIES

A1	=	46.3	IN.	A2	=	50.0	IN.
B1	=	50.1	IN.	B2	=	50.0	IN.
TR1	=	54.6	IN.	TR2	=	50.0	IN.
I1	=	19550.6	LB-SEC**2-IN	I2	=	2600104000.0	LB-SEC**2-IN
M1	=	6.625	LB-SEC**2/IN	M2	=	2600.104	LB-SEC**2/IN
XF1	=	83.3	IN.	XF2	=	50.0	IN.
XR1	=	-91.6	IN.	XR2	=	-50.0	IN.
YS1	=	33.6	IN.	YS2	=	50.0	IN.

## ROLLING RESISTANCE

## VEHICLE # 1

LF----- .30  
 RF----- .30  
 LR----- .02  
 RR----- .02  
 MU----- .65

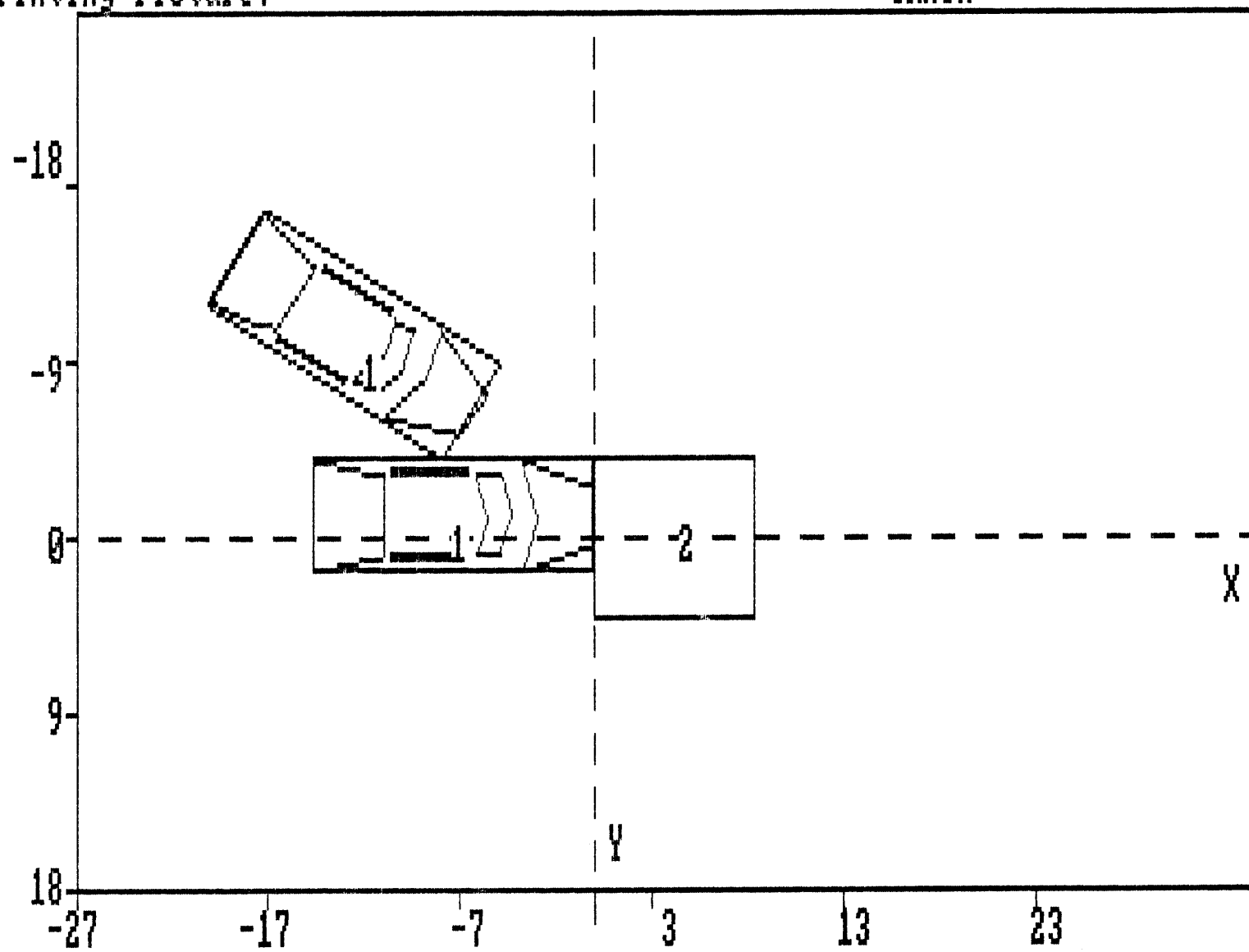
## VEHICLE # 2

LF----- .00  
 RF----- .00  
 LR----- .00  
 RR----- .00

PRESS ANY KEY TO CONTINUE

Printing Picture:

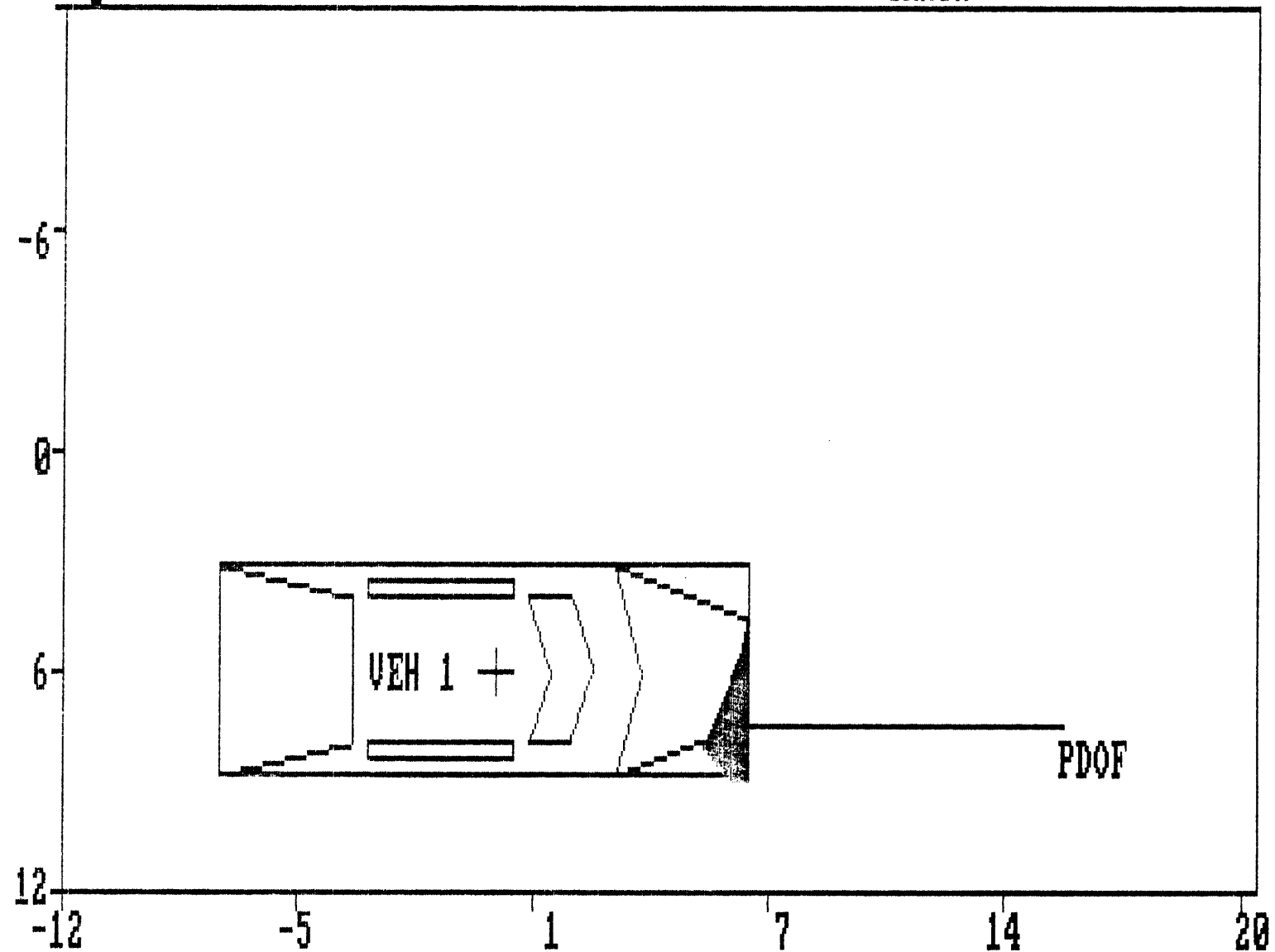
CRASH



SCENE DESCRIPTION

Printing Picture:

CRASH



DAMAGE DESCRIPTION

APPENDIX C

Air Bag Supplement

# ACCIDENT SUMMARY

ACCIDENT DATE 1/1/91

POLICE INVESTIGATED (1,2,9)\*

Sherman POLICE DEPT.

City 2340 County 147

## GENERAL LOCALITY

- (1) Freeway, Limited Access
- (2) Urban (City)
- (3) Urban-Rural (mixed)
- (4) Rural, Fields

## CONFIGURATION (First Harm)

- (0) Struck Object or Pedestrian
- (1) Rear-End
- (2) Head-On
- (3) Rear-to-Rear
- (4) Angle
- (5) Sideswipe-Same Direction
- (6) Sideswipe-Opposite Direct.
- (7) NonColl:eg Fell from Veh
- (8) NonImpact Deployment
- (9) Unknown

## FIRE INVOLVED (0) None

- (1) AirBag Vehicle
- (2) Other Vehicle
- (3) Both Vehicles
- (9) Unknown

NUMBER: VEHICLES INVOLVED

(8)=8 or more

PERSONS INVOLVED

INJURED PERSONS

MAXIMUM AIS IN ACCIDENT

OTHER VEHICLE: MAXIMUM AIS

PRIME/DEPLOY IMPACT w AB VEH:  
EVENT NUMBER

CDC N/A

TOTAL DELTA-V

Model Year, Make, Model, Body Type:

# AIRBAG VEHICLE INSPECTION

DATE VEH. INSPECTED 1/1/92

## REASON VEHICLE NOT INSPECTED

- (0) Not Required
- (1) Inspection Completed
- (2) Cannot be Located\*\*
- (3) Repaired or Destroyed\*\*
- (5) Refual or Impounded\*\*
- (7) Other\*

\*\*Specify:

## IMPACT DATA OBTAINED

- (0) No Data Obtained
- (1) CDC Only
- (2) Crush Profile Only
- (3) Trajectory Data Only
- (4) CDC and Crush Profile
- (5) CDC and Trajectory
- (6) Crush and Trajectory
- (7) CDC, Crush & Trajectory

## BASIS OF DELTA-V

- (0) Not Computed (Unknown Why)
- (1) CRASH - Damage Only
- (2) CRASH - Damage+Trajectory
- (3) Missing Vehicle Algorithm
- (4) Yielding Object Algorithm
- (5) Unknown Basis
- (6) One Vehicle Beyond Scope
- (7) Collision Beyond Scope
- (8) Insufficient Data

## VEHICLE HISTORY

HAS AIRBAG VEHICLE BEEN IN  
ANY PRIOR IMPACTS (1,2,9)\*

HAS ANY PRIOR MAINTENANCE/SERVICE  
BEEN PERFORMED ON SYSTEM(1,2,9)\*

\*Describe:

AIRBAG VEHICLE: FLEET PRIVATE (FORMER  
INSURANCE VEHICLE)

VIN 1FACB22X0G

MILEAGE 83,678.5

SYSTEM READINESS LAMP  
(In Instrument Cluster)

PRE-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown

DRIVER'S REPORT OF  
PRE-IMPACT FLASHING

- (00) No Flashing Reported
- (01) Continuous Flashing
- (02) -- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not App (system removed)
- (99) Unknown

PERIOD OF PRE-IMPACT FLASHING

- (0) No Flashing
- (1) Same Day as Impact
- (2) Prior Day
- (3) Prior Two Days
- (4) Prior Week
- (5) Prior Month
- (6) Over One Month
- (9) Unknown

POST-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown NO POWER

POST-IMPACT FLASHING

- (00) No Flashing NO POWER
- (01) Continuous Flashing
- (02) -- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not Appl (removed)
- (99) Unknown

AIRBAG VEHICLE  
FIRST HARMFUL EVENT

32

- (01) Fire or explosion
- (02) Immersion
- (03) Gas Inhalation
- (04) Fell from vehicle
- (05) Injured in vehicle
- (06) Other noncollision (specify):
- (07) Overturn
- (08) Jackknife with intraunit damage
- Collision With:
- (09) Pedestrian
- (10) Pedalcyclist
- (11) Railway train
- (12) Animal
- (13) Motor vehicle in transport (same roadway)
- (14) Motor vehicle in transport (other roadway)
- (15) Parked motor vehicle
- (16) Other type nonmotorist (specify):
- (17) Thrown or falling object
- (18) Boulder
- Collision with Fixed Object:
- (20) Building
- (21) Impact attenuator/Crash Cushion
- (22) Bridge pier or abutment
- (23) Bridge parapet end
- (24) Bridge rail
- (25) Guardrail
- (26) Concrete traffic barrier
- (27) Median barrier
- (28) Other longitudinal barrier (specify):
- (29) Highway/Traffic sign post
- (30) Overhead sign support
- (31) Luminaire/Light support
- (32) Utility pole
- (33) Other post, pole, or support (specify):
- (34) Culvert
- (35) Curb
- (36) Ditch
- (37) Embankment-earth
- (38) Embankment-rock, stone or concrete
- (39) Fence (wooden, wire, chain link, etc.)
- (40) Wall (stone, rock, metal, etc.)
- (41) Fire hydrant
- (42) Shrubbery
- (43) Tree
- (44) Other fixed object (specify):
- (45) Pavement surface irregularity (pothole, grooved, grates)
- (99) Unknown

## AIRBAG VEHICLE IMPACT SUMMARY

## VEHICLE ROLE

- (0) Non-collision  
 (1) Striking Unit  
 (2) Struck Unit  
 (3) Both Striking and Struck  
 (9) Unknown

## MANNER OF LEAVING SCENE

- (1) Driven  
 (2) Towed-due to damage  
 (3) Towed - not for damage  
 (4) Towed - details unknown  
 (5) Abandoned  
 (9) Unknown

## NUMBER OF IMPACT EVENTS

- (8) 8 or more, (9) Unknown

## ROLLOVER

- (0) No Rollover  
 (1) First Event  
 (2) Subsequent Event  
 (3) Yes, Unknown Event  
 (9) Unknown

## OVERRIDE/UNDERRIDE

- (1) No over/underride  
 (1) Override - 1st CDC  
 (3) - Other CDC  
 (4) Underride - 1st CDC  
 (6) - Other CDC  
 (9) Unknown

## AIRBAG VEHICLE DAMAGE

- CODES: (1) Yes, DAMAGED  
 (2) No Damage  
 (9) Unknown

## LEFT FRONT FENDER DAMAGE

## RIGHT FRONT FENDER DAMAGE

## CENTER TOP OF GRILLE DAMAGE

## FRONT BUMPER E.A. STATUS: Left

- (1) Normal Right  
 (2) Extended  
 (3) Partial Compression  
 (4) Complete Compression  
 (5) Not Applicable  
 (9) Unknown

## FIRST AIRBAG VEHICLE IMPACT:

## CONFIGURATION

- (0) Struck Object or Pedestrian  
 (1) Rear-End  
 (2) Head-On  
 (3) Rear-to-Rear  
 (4) Angle  
 (5) Sideswipe - Same Direction  
 (6) Sideswipe-Opposite Direct.  
 (7) NonCollision Fell from Veh  
 (8) NonImpact Deployment  
 (9) Unknown

CDC 12 - FZEN - 2OBJECT CONTACTED: UTILITY POLE

## PRIMARY/DEPLOYMENT IMPACT:

## EVENT NUMBER

TOTAL DELTA-V

16.7

LONGITUDINAL DELTA-V

-16.7

## CONFIGURATION

- (0) Struck Object or Pedestrian  
 (1) Rear-End  
 (2) Head-On  
 (3) Rear-to-Rear  
 (4) Angle  
 (5) Sideswipe - Same Direction  
 (6) Sideswipe-Opposite Direct.  
 (7) NonCollision Fell from Veh  
 (8) NonImpact Deployment  
 (9) Unknown

CDC 12 - FZEN - 1OBJECT CONTACTED: UTILITY POLE

## NOTES:

SYSTEM DAMAGE

AIRBAG SUPPLEMENT AB-4

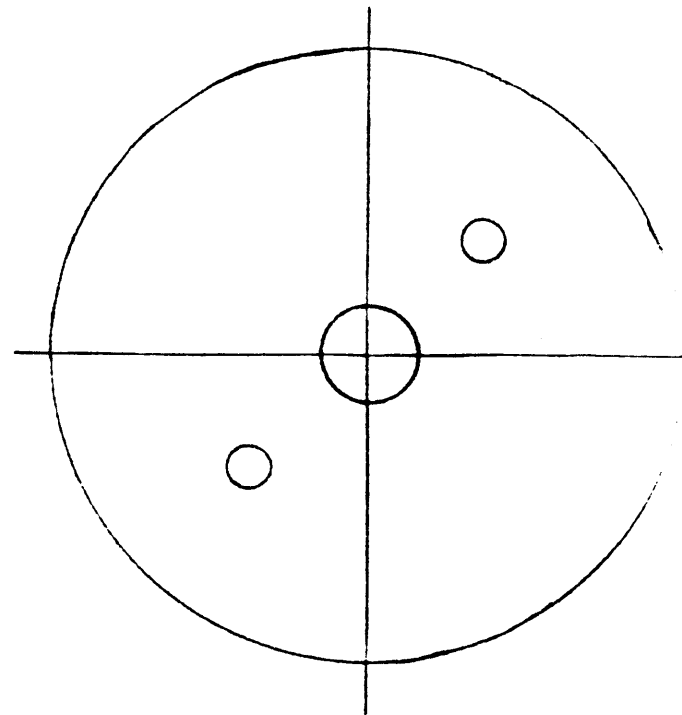
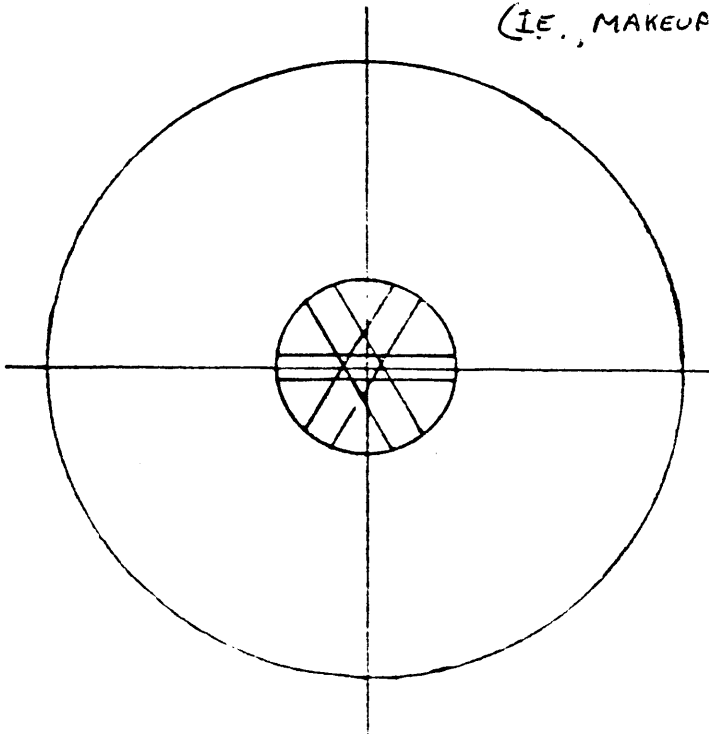
<p><b>AIRBAG SYSTEM DAMAGE</b></p> <p>CODES: (1) Yes, Damaged*          (2) No, Intact          (8) Not App.(Removed)          (9) Unknown</p> <p>AIRBAG MODULE</p> <p>SENSORS: Left Front          Center Front          Right Front          Rear, Cowl</p> <p>DIAGNOSTIC MODULE</p> <p>WIRING</p> <p>KNEE DIVERter</p> <p>INDICATION OF DISCONNECTED          OR LOOSE ELECTRICAL          CONNECTORS</p>	<p><u>2</u>  <u>2</u>  <u>2</u>  <u>2</u>  <u>2</u>  <u>2</u>  <u>1</u>  <u>2</u></p>	<p><b>CONDITION OF DEPLOYED BAG</b></p> <p>(1) Bag Intact          (2) Split or Torn*          (3) Cut by Object in Impact*          (4) Cut after Accident*          (5) Other (e.g., burned)*          (8) N/A (not deployed)          (9) Unknown</p> <p><b>*DESCRIBE System and Bag Damage:</b></p> <p>_____          _____          _____          _____          _____          _____</p>	<p><u>1</u></p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------

NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS BELOW:

NO CONTACT EVIDENCE ON BAG  
 (IE., MAKEUP, TISSUE)

TOP

BOTTOM



FRONT

BACK



## OCCUPANTS/DRIVER

AIRBAG SUPPLEMENT AB-5

OCCUPANTS of AIRBAG CAR			
NUMBER OF OCCUPANTS IN VEHICLE (8) 8 or more	<u>1</u>	NOTES:	
NUMBER OF INJURED PERSONS	<u>1</u>		
MAXIMUM AIS IN AIRBAG VEHICLE (0) No Injury (1-6) AIS Severity (7) Injured, Unknown Severity (9) Unknown	<u>3</u>		
DRIVER AGE <u>57</u> SEX <u>FEMALE</u>			
NUMBER OF DRIVER INJURIES	<u>6</u>		
SOURCE OF BEST INJURY DATA	<u>2</u>		
(0) Not Injured (1) Autopsy w/wo med. records (2) Hospital Medical Records (3) Emergency Room only (4) Private physician, Clinic (5) Lay Coroner Report (6) EMS Personnel (7) Interviewee (8) Police (9) Unknown			
-----			
MAXIMUM AIS BY BODY REGION			
REGION	MAX AIS		CONTACT
Head/Neck/Face	<u>1</u>		<u>45</u>
Chest	<u>1</u>		<u>45</u>
Abdomen	<u>3</u>		<u>04</u>
Leg/Hips	---		---
Other (Arms)	---	---	
DRIVER MAXIMUM	<u>3</u>	<u>04</u>	
-----			
EJECTION: Extent <u>NONE</u>			
Portal <u>N/A</u>			

DRIVER BELT USAGE: (1) Used (2) Not Used (9) Unknown 1Evidence: NO EVIDENCE OF LOADING ON BELT WEBBING OR HARDWARE  
POLICE AND EMTs REPORTED BELT USAGEDRIVER POSTURE: Any Comments Recorded (1) Yes, (2) No 1

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs and feet. Also note hand and arm position. Did driver brace before crash? Describe:

DRIVER WAS IN FORWARD SEATING POSITION, SEAT ADJUSTED 3"  
REARWARD OF FULL FORWARD POSITION, DRIVER WAS PROBABLY  
LEANING FORWARD DUE TO COUGHINGDRIVER FOREIGN OBJECTS: Comments Recorded (1) Yes, (2) No 1

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelry play any role?:

EYEGLASSES, NOT DAMAGED AS REPORTED BY DAUGHTERDRIVER COMMENTS: Comments Recorded (1) Yes, (2) No 2

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:

FATALPASSENGER-AIRBAG CONTACT (1) Yes, (2) No, (9) Unknown 2Describe: NO PASSENGER

APPENDIX D

NASS Vehicle Forms



## GENERAL VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

## VEHICLE IDENTIFICATION

4. Vehicle Model Year

Code the last two digits of the model year  
(99) Unknown

5. Vehicle Make (specify):

FORD  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(99) Unknown

6. Vehicle Model (specify):

TEMPO GL 4DR.  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(999) Unknown

7. Body Type

Note: Applicable codes may be found on  
the back of this page.

8. Vehicle Identification Number MF

1FACP22XOGKLeft justify; Slash zeros and letter Z (0 and Z)  
No VIN—Code all zeros  
Unknown—Code all nine's

## OFFICIAL RECORDS

9. Police Reported Vehicle Disposition

(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

10. Police Reported Travel Speed

Code to the nearest mph (NOTE: 00 means  
less than 0.5 mph)  
(97) 96.5 mph and above  
(99) Unknown

11. Police Reported Alcohol Presence

(0) No alcohol present  
(1) Yes (alcohol present)  
(7) Not reported  
(8) No driver present  
(9) Unknown

Note: See variables 37 through 55

(Page 4) for information on Other Drugs

12. Alcohol Test Result For Driver

Code actual value (decimal implied  
before first digit—0.xx)(95) Test refused  
(96) None given  
(97) AC test performed, results unknown  
(98) No driver present  
(99) Unknown

Source:

## ACCIDENT RELATED

13. Speed Limit

(00) No statutory limit  
Code posted or statutory speed limit  
(99) Unknown

14. Attempted Avoidance Maneuver

(00) No impact  
(01) No avoidance actions  
(02) Braking (no lockup)  
(03) Braking (lockup)  
(04) Braking (lockup unknown)  
(05) Releasing brakes  
(06) Steering left  
(07) Steering right  
(08) Braking and steering left  
(09) Braking and steering right  
(10) Accelerating  
(11) Accelerating and steering left  
(12) Accelerating and steering right  
(97) No driver present  
(98) Other action (specify):

(99) Unknown

15. Accident Type

Applicable codes may be found on the  
back of page two of this field form(00) No impact  
Code the number of the diagram that  
best describes the accident circumstance  
(98) Other accident type (specify):

(99) Unknown

\*\*\*\* SKIP TO VARIABLE GV37 IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*

# CODES FOR BODY TYPE

## CDS APPLICABLE VEHICLES

### Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): \_\_\_\_\_

- (09) Unknown automobile type

### Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

### Utility Vehicles ( $\leq 10,000$ lbs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravado, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Landcruiser, Rover, Scout)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

### Van Based Light Trucks ( $\leq 10,000$ lbs GVWR)

- (20) Minivan (Chrysler Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Dodge/Plymouth Vista, Aerostar, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Mitsubishi Minivan, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ( $\leq 10,000$  lbs GVWR)
- (23) Van based motorhome ( $\leq 10,000$  lbs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): \_\_\_\_\_
- (29) Unknown van type

### Light Conventional Trucks (Pickup style cab, $\leq 10,000$ lbs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500,)
- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

### Other Light Trucks ( $\leq 10,000$ lbs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

## OTHER VEHICLES

### Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): \_\_\_\_\_
- (59) Unknown bus type

### Medium/Heavy Trucks ( $> 10,000$ lbs GVWR)

- (60) Step van ( $> 10,000$  lbs GVWR)
- (61) Single unit straight truck ( $10,000$  lbs  $<$  GVWR  $\leq 19,500$  lbs)
- (62) Single unit straight truck ( $19,500$  lbs  $<$  GVWR  $\leq 26,000$  lbs)
- (63) Single unit straight truck ( $> 26,000$  lbs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

### Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): \_\_\_\_\_
- (89) Unknown motored cycle type

### Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

**OCCUPANT RELATED**

16. Driver Presence in Vehicle 1  
 (0) Driver not present  
 (1) Driver present  
 (9) Unknown
17. Number of Occupants This Vehicle 01  
 (00-96) Code actual number of occupants for this vehicle  
 (97) 97 or more  
 (99) Unknown
18. Number of Occupant Forms Submitted 01

24. Rollover 0  
 (0) No rollover (no overturning)
- Rollover (primarily about the longitudinal axis)*  
 (1) Rollover, 1 quarter turn only  
 (2) Rollover, 2 quarter turns  
 (3) Rollover, 3 quarter turns  
 (4) Rollover, 4 or more quarter turns (specify):  
 \_\_\_\_\_
- (5) Rollover--end-over-end (i.e., primarily about the lateral axis)  
 (9) Rollover (overturn), details unknown

**VEHICLE WEIGHT ITEMS**

19. Vehicle Curb Weight 02,400  
~~2398~~ Code weight to nearest 100 pounds.  
 (010) Less than 1050 pounds  
 (135) 13,500 pounds or more  
 (999) Unknown
- Source: MUMA

20. Vehicle Cargo Weight 0000  
 \_\_\_\_\_ Code weight to nearest 100 pounds.  
 (00) Less than 50 pounds  
 (97) 9,650 pounds or more  
 (99) Unknown

**RECONSTRUCTION DATA**

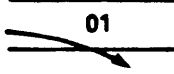
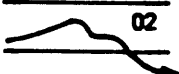

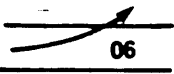

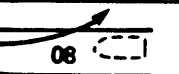
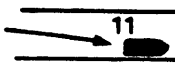

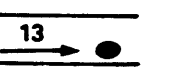
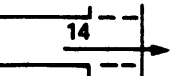
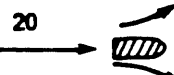
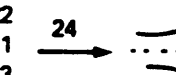
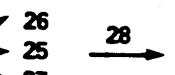
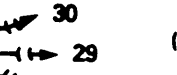

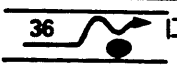
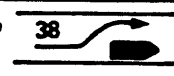
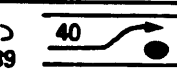
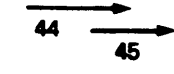
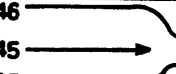

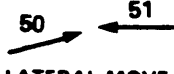

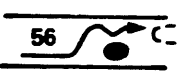

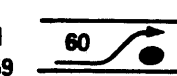
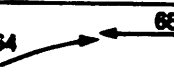
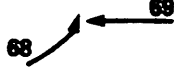
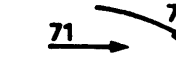
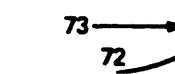
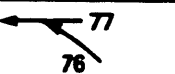

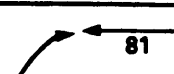
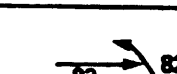
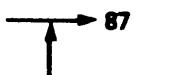
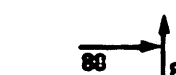

21. Towed Trailing Unit 0  
 (0) No towed unit  
 (1) Yes--towed trailing unit  
 (9) Unknown
22. Documentation of Trajectory Data for This Vehicle 0  
 (0) No  
 (1) Yes
23. Post Collision Condition of Tree or Pole (For Highest Delta V) 1  
 (0) Not collision (for highest delta V) with tree or pole  
 (1) Not damaged  
 (2) Cracked/sheared  
 (3) Tilted <45 degrees  
 (4) Tilted ≥45 degrees  
 (5) Uprooted tree  
 (6) Separated pole from base  
 (7) Pole replaced  
 (8) Other (specify):  
 \_\_\_\_\_  
 (9) Unknown

**OVERRIDE/UNDERRIDE (THIS VEHICLE)**

25. Front Override/Underride (this Vehicle) 0
26. Rear Override/Underride (this Vehicle) 0
- (0) No override/underride, or not an end-to-end impact
- Override (see specific CDC)*  
 (1) 1st CDC  
 (2) 2nd CDC  
 (3) Other not automated CDC (specify):  
 \_\_\_\_\_
- Underride (see specific CDC)*  
 (4) 1st CDC  
 (5) 2nd CDC  
 (6) Other not automated CDC (specify):  
 \_\_\_\_\_
- (7) Medium/heavy truck or bus override  
 (9) Unknown

**HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V**

- Values: (000)-(359) Code actual value  
 (997) Noncollision  
 (998) Impact with object  
 (999) Unknown
27. Heading Angle For This Vehicle 998
28. Heading Angle For Other Vehicle 998

Category	Configuration	ACCIDENT TYPES (Includes Intent)					
I. Single Driver	A. Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN	
	B. Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN	
	C. Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER	16 SPECIFICS UNKNOWN
II. Same Trafficway Same Direction	D. Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 25, 26, 27	 24 DECEL. 28, 30, 31	 26 AVOID COLLISION WITH VEH.	(EACH • 32) SPECIFICS OTHER	(EACH • 33) SPECIFICS UNKNOWN
	E. Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER	(EACH • 43) SPECIFICS UNKNOWN
	F. Sideswipe Angle	 44 45	 46 45 47	 48 45 47		(EACH • 48) SPECIFICS OTHER	(EACH • 49) SPECIFICS UNKNOWN
III. Same Trafficway Opposite Direction	G. Head-On	 50 LATERAL MOVE	(EACH • 52) SPECIFICS OTHER		(EACH • 53) SPECIFICS UNKNOWN		
	H. Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER	(EACH • 63) SPECIFICS UNKNOWN
	I. Sideswipe/ Angle	 64 LATERAL MOVE	(EACH • 66) SPECIFICS OTHER		(EACH • 67) SPECIFICS UNKNOWN		
IV. Change Trafficway Vehicle Turning	J. Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 70 INITIAL SAME DIRECTIONS	 72	(EACH • 74) SPECIFICS OTHER	(EACH • 75) SPECIFICS UNKNOWN	
	K. Turn Into Path	 76 TURN INTO SAME DIRECTION	 78	 80 TURN INTO OPPOSITE DIRECTIONS	 82	(EACH • 84) SPECIFICS OTHER	(EACH • 85) SPECIFICS UNKNOWN
V. Intersecting Paths (Vehicle Damage)	L. Straight Paths	 86	 88	(EACH • 90) SPECIFICS OTHER		(EACH • 91) SPECIFICS UNKNOWN	
VI. Miscellaneous	M. Backing Etc.	 92 BACKING VEH.	93 OTHER VEH. OR OBJECT		98 Other Accident Type 99 Unknown Accident Type 00 No Impact		

29. Basis for Total Delta V (highest) 2*Delta V Calculated*

- (1) CRASH program—damage only routine
- (2) CRASH program—damage and trajectory routine
- (3) Missing vehicle algorithm

*Delta V Not Calculated*

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction technique, regardless of adequacy of damage data.
- (6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

**COMPUTER GENERATED DELTA V**

30. Total Delta V

Secondary Highest

1716.7 Nearest mph

(NOTE: 00 means less than  
0.5 mph)  
(97) 96.5 mph and above  
(99) Unknown

31. Longitudinal Component of  
Delta V+ 17-16.7 Nearest mph

(NOTE: \_\_00 means greater than  
-0.5 and less than +0.5 mph)  
(±97) ±96.5 mph and above  
(\_\_99) Unknown

Secondary Highest

32. Lateral Component of Delta V

00

Nearest mph

(NOTE: \_\_00 means greater than  
-0.5 and less than +0.5 mph)  
(±97) ±96.5 mph and above  
(\_\_99) Unknown

33. Energy Absorption

026.50026516.4 Nearest 100 foot-lbs

(NOTE: 0000 means less than 50 foot-lbs)  
(9997) 999,650 foot-lbs or more  
(9999) Unknown

34. Confidence In Reconstruction Program  
Results (For Highest Delta V)

- (0) No reconstruction 1
- (1) Collision fits model — results appear reasonable
- (2) Collision fits model — results appear high
- (3) Collision fits model — results appear low
- (4) Borderline reconstruction — results appear reasonable

35. Type of Vehicle Inspection

- (0) No inspection 1
- (1) Complete inspection
- (2) Partial inspection (specify):

36. Is this an AOPS Vehicle?

- (0) No 1
- (1) Yes

IS OLDMISS APPLICABLE FOR THIS VEHICLE? [ ] YES [X] NO

IF YES: IS A COMPLETED OLDMISS PROGRAM SUMMARY INCLUDED? [ ] YES [ ] NO



37. Police Reported Other Drug Presence 0

- (0) No other drugs present
- (1) Yes (other drug present)
- (7) Not reported
- (8) No driver present
- (9) Unknown

38. Police Reported Observation/Perception Test Type For Driver 0

- (0) No observation/perception test given
- (1) Drug recognition technician (DRT) determination using DEC process
- (2) Behavioral
- (3) Other physical observation/perception determination (specify): \_\_\_\_\_
- (4) DEC process available, unknown if determination made
- (5) DEC process not available, unknown if other observation/perception test given
- (7) Other observation/perception test (specify): \_\_\_\_\_
- (8) No driver present

39. Other Drug Specimen Test Type For Driver 0

- (0) No specimen test given
- (1) Blood test
- (2) Urine test
- (3) Other specimen tests (specify): \_\_\_\_\_
- (7) Unspecified specimen test
- (8) No driver present
- (9) Unknown if specimen test given

## DRUG EVALUATION CLASSIFICATION

### OTHER DRUGS TEST RESULTS FOR DRIVER

	DEC	
	Observation/ Perception Test Results	Specimen Test Results
Narcotic Drug	40. <u>0</u>	41. <u>0</u>
Depressant Drug	42. <u>0</u>	43. <u>0</u>
Stimulant Drug	44. <u>0</u>	45. <u>0</u>
Hallucinogen Drug	46. <u>0</u>	47. <u>0</u>
Cannabinoid Drug	48. <u>0</u>	49. <u>0</u>
Phencyclidine (PCP)	50. <u>0</u>	51. <u>0</u>
Inhalant Drug	52. <u>0</u>	53. <u>0</u>
Other Drug (Excluding Nicotine, Aspirin, Alcohol, Drugs Administered Post-Crash)	54. <u>0</u>	55. <u>0</u>

## Codes For Observation/Perception Test Results

- (0) No DEC observation/perception test given
- (1) Passed DEC observation/perception test
- (2) Failed DEC observation/perception test
- (3) DEC observation/perception test given—  
results unknown
- (8) No driver present
- (9) Unknown if DEC observation/perception  
test given

## Codes for Specimen Test Results

- (0) No specimen test given
- (1) Drug not found in specimen
- (2) Drug found in specimen
- (7) Specimen test given, results unknown or  
not obtained
- (8) No driver present
- (9) Unknown if specimen test given

**OTHER DATA**

## 56. Driver's Zip Code

- (00000) Driver not present  
 (00001) Driver not a resident of U.S. or territories  
                     Code actual 5-digit zip code  
 (99999) Unknown

## 57. Driver's Race/Ethnic Origin

- (0) Driver not present  
 (1) White (non-Hispanic)  
 (2) Black (non-Hispanic)  
 (3) White (Hispanic)  
 (4) Black (Hispanic)  
 (5) American Indian, Eskimo or Aleut  
 (6) Asian or Pacific Islander  
 (8) Other (specify):  
 (9) Unknown

## 58. Vehicle Special Use (This Trip)

- (0) No special use  
 (1) Taxi  
 (2) Vehicle used as school bus  
 (3) Vehicle used as other bus  
 (4) Military  
 (5) Police  
 (6) Ambulance  
 (7) Hearse  
 (8) Fire truck or car  
 (9) Unknown

## 61. Rollover Initiation Object Contacted

00

## 62. Location on Vehicle Where Initial Principal Tripping Force Is Applied

0

- (0) No rollover  
 (1) Wheels/tires  
 (2) Side plane  
 (3) End plane  
 (4) Undercarriage  
 (5) Other location on vehicle (specify):  
 (8) Non-contact rollover forces (specify):  
 (9) Unknown

## 63. Direction of Initial Roll

0

- (0) No rollover  
 (1) Roll right - primarily about the longitudinal axis  
 (2) Roll left - primarily about the longitudinal axis  
 (5) End-over-end (i.e., primarily about the lateral axis)  
 (9) Unknown roll direction

**PRECRASH DATA**

## 64. Pre-Event Movement (Prior to Recognition of Critical Event)

01

- (01) Going straight  
 (02) Slowing or stopping in traffic lane  
 (03) Starting in traffic lane  
 (04) Stopped in traffic lane  
 (05) Passing or overtaking another vehicle  
 (06) Disabled or parked in travel lane  
 (07) Leaving a parking position  
 (08) Entering a parking position  
 (09) Turning right  
 (10) Turning left  
 (11) Making a U-turn  
 (12) Backing up (other than for parking position)  
 (13) Negotiating a curve  
 (14) Changing lanes  
 (15) Merging  
 (16) Successful avoidance maneuver to a previous critical event  
 (97) Other (specify):  
 (98) No driver present  
 (99) Unknown

**ROLLOVER DATA**

If GV07 (Body Type)  $\neq$  1-49, leave GV59-GV63 blank.  
 If GV24 (Rollover) = 0, then GV59-GV63 must equal 0.  
 If GV24 = 9, then GV59-GV63 must equal 9.

## 59. Rollover Initiation Type

- (0) No rollover  
 (1) Trip-over  
 (2) Flip-over  
 (3) Turn-over  
 (4) Climb-over  
 (5) Fall-over  
 (6) Bounce-over  
 (7) Collision with another vehicle  
 (8) Other rollover initiation type specify):  
 (9) Unknown rollover initiation type

## 60. Location of Rollover Initiation

- (0) No rollover  
 (1) On roadway  
 (2) On shoulder—paved  
 (3) On shoulder—unpaved  
 (4) On roadside or divided trafficway median  
 (9) Unknown

## CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
- (01-30) — Vehicle Number

### Noncollision

- (31) Turn-over — fall-over
- (33) Jackknife

### Collision With Fixed Object

- (41) Tree ( $\leq 4$  inches in diameter)
- (42) Tree ( $> 4$  inches in diameter)
- (43) Shrubbery or bush
- (44) Embankment

- (45) Breakaway pole or post (any diameter)

### Nonbreakaway Pole or Post

- (50) Pole or post ( $\leq 4$  inches in diameter)
- (51) Pole or post ( $> 4$  inches but  $\leq 12$  inches in diameter)
- (52) Pole or post ( $> 12$  inches in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail)  
(specify): \_\_\_\_\_

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): \_\_\_\_\_

- (69) Unknown fixed object \_\_\_\_\_

### Collision with Nonfixed Object

- (71) Motor vehicle not in-transport
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (88) Other nonfixed object (specify): \_\_\_\_\_

- (89) Unknown nonfixed object \_\_\_\_\_

- (98) Other event (specify): \_\_\_\_\_

- (99) Unknown event or object \_\_\_\_\_

**PRECRASH DATA (Continued)****65. Critical Precrash Event** 13*This Vehicle Loss of Control Due To:*

- (01) Blow out or flat tire
- (02) Stalled engine
- (03) Disabling vehicle failure (e.g., wheel fell off) (specify): \_\_\_\_\_
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): \_\_\_\_\_
- (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): \_\_\_\_\_
- (06) Traveling too fast for conditions
- (08) Other cause of control loss (specify): \_\_\_\_\_
- (09) Unknown cause of control loss

*This Vehicle Traveling*

- (10) Over the lane line on left side of travel lane
- (11) Over the lane line on right side of travel lane
- (12) Off the edge of the road on the left side
- (13) Off the edge of the road on the right side
- (14) End departure
- (15) Turning left at intersection
- (16) Turning right at intersection
- (17) Crossing over (passing through) intersection
- (19) Unknown travel direction

*Other Motor Vehicle In Lane*

- (50) Stopped
- (51) Traveling in same direction with lower speed (i.e., lower steady speed or decelerating)
- (52) Traveling in same direction with higher speed
- (53) Traveling in opposite direction
- (54) In crossover
- (55) Backing
- (59) Unknown travel direction of other motor vehicle in lane

*Other Motor Vehicle Encroaching Into Lane*

- (60) From adjacent lane (same direction)—over left lane line
- (61) From adjacent lane (same direction)—over right lane line
- (62) From opposite direction—over left lane line
- (63) From opposite direction—over right lane line
- (64) From parking lane
- (65) From crossing street, turning into same direction
- (66) From crossing street, across path
- (67) From crossing street, turning into opposite direction
- (68) From crossing street, intended path not known
- (70) From driveway, turning into same direction
- (71) From driveway, across path
- (72) From driveway, turning into opposite direction
- (73) From driveway, intended path not known
- (74) From entrance to limited access highway
- (78) Encroachment by other vehicle—details unknown

*Pedestrian or Pedalcyclist, or Other Nonmotorist*

- (80) Pedestrian in roadway
- (81) Pedestrian approaching roadway
- (82) Pedestrian - unknown location
- (83) Pedalcyclist or other nonmotorist in roadway (specify): \_\_\_\_\_
- (84) Pedalcyclist or other nonmotorist approaching roadway (specify): \_\_\_\_\_
- (85) Pedalcyclist or other nonmotorist—unknown location (specify): \_\_\_\_\_

*Object or Animal*

- (87) Animal in roadway
- (88) Animal approaching roadway
- (89) Animal—unknown location
- (90) Object in roadway
- (91) Object approaching roadway
- (92) Object—unknown location

(98) Other critical precrash event (specify): \_\_\_\_\_

(99) Unknown \_\_\_\_\_

For Corrective Actions Attempted see variable GV14 (Attempted Avoidance Manuever)

**66. Precrash Stability After Avoidance Manuever** 0

- (0) No avoidance manuever
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify): \_\_\_\_\_
- (8) No driver present
- (9) Precrash stability unknown

**67. Precrash Directional Consequences of Avoidance Manuever (Corrective Action)** 0

- (0) No avoidance manuever
- (1) Vehicle stayed in travel lane where avoidance manuever was initiated
- (2) Vehicle stayed on roadway but left travel lane where avoidance manuever was initiated
- (3) Vehicle stayed on roadway, not known if left travel lane where avoidance manuever was initiated
- (4) Vehicle departed roadway
- (5) Avoidance manuever initiated off roadway
- (8) No driver present
- (9) Directional consequences unknown

\*\*\* IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

\*\*\* IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE \*\*\*  
THE EXTERIOR VEHICLE, INTERIOR VEHICLE,  
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

## EXTERIOR VEHICLE FORM

**NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM**

1. <del>Primary Sampling Unit Number</del> _____	3. Vehicle Number <u>01</u>
2. Case Number - Stratum <u>92-04</u>	

## VEHICLE IDENTIFICATION

VIN 1 F A C P 2 2 X O G K [REDACTED] Model Year 8 6  
Vehicle Make (specify): FORD Vehicle Model (specify): TEMPO GL 4DR.

## LOCATOR

**Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.**

Specific Impact No.	Location of Direct Damage	Location of Field L
1	FRONT BUMPER STARTS 5.6"	FRONT BUMPER CORNER-TO-
	RIGHT OF CENTER EXTENDS	CORNER 48"
	8' TO RIGHT	

## CRUSH PROFILE

**NOTES:** Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

**Measure and document on the vehicle diagram the location of maximum crush.**

**Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.**

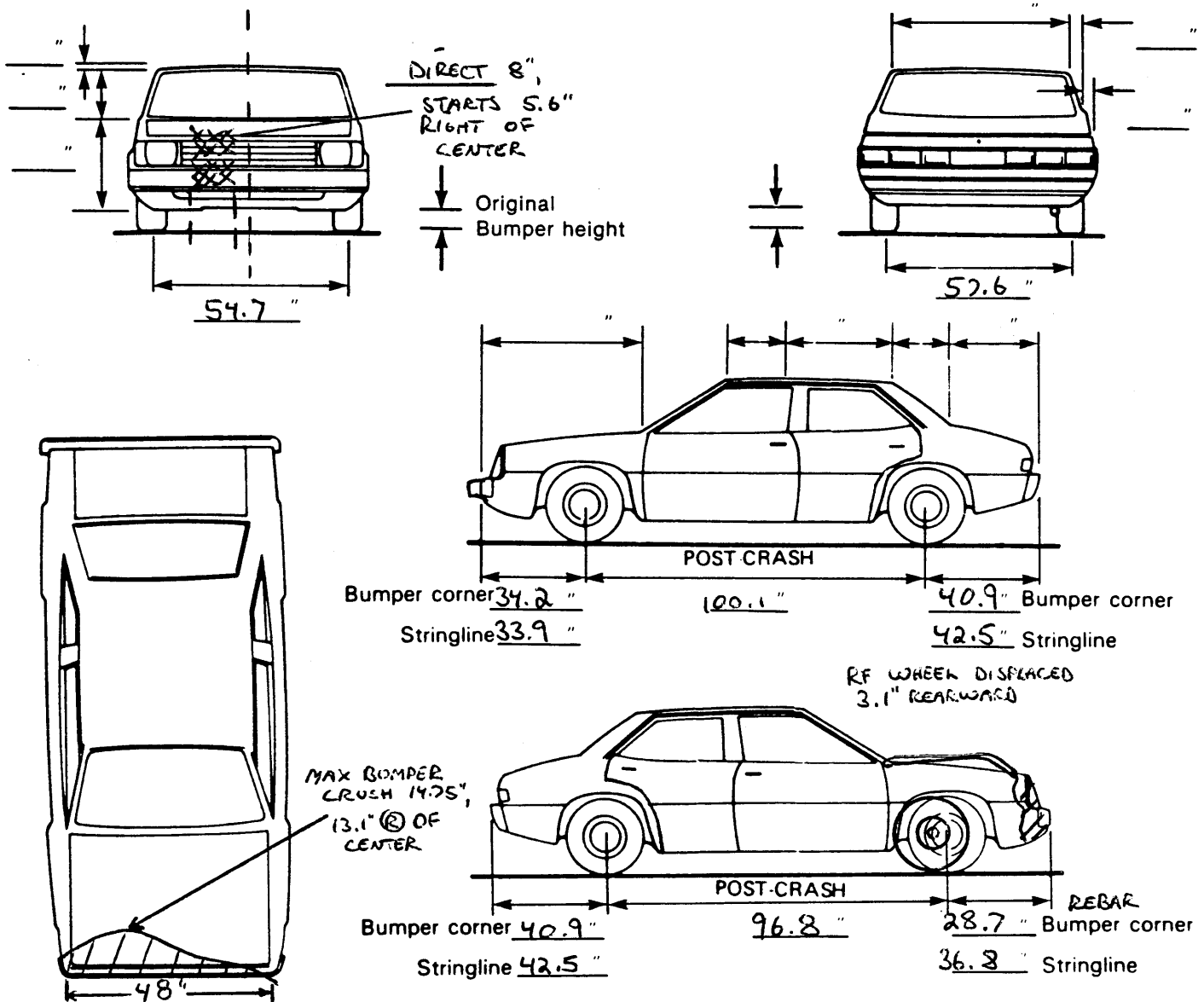
**Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.**

**Use as many lines/columns as necessary to describe each damage profile.**

[illegible]

## VEHICLE DAMAGE SKETCH

<b>TIRE—WHEEL DAMAGE</b> a. Rotation physically restricted RF <u>2</u> LF <u>2</u> RR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.	<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>99.9"</u> Overall Length <u>176.2"</u> Maximum Width <u>68.3"</u> Curb Weight <u>2398</u> Average Track <u>56.15</u> Front Overhang _____ Rear Overhang _____ Engine Size: cyl./displ. <u>4 cyl, 2.3 liter</u> Undeformed End Width <u>54"</u>	<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF ± _____ ° LF ± _____ ° RR ± _____ ° LR ± _____ ° Within ± 5 degrees
<b>TYPE OF TRANSMISSION</b> <input type="checkbox"/> Manual <input checked="" type="checkbox"/> <u>3-SPEED</u> Automatic		<b>DRIVE WHEELS</b> <input checked="" type="checkbox"/> FWD <input type="checkbox"/> RWD <input type="checkbox"/> 4WD Approximate Cargo Weight <u>N/A</u>



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.



## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>01</u>	5. <u>51</u>	6. <u>12</u>	7. <u>F</u>	8. <u>Z</u>	9. <u>E</u>	10. <u>N</u>	11. <u>02</u>

## Second Highest Delta "V"

12. <u>    </u>	13. <u>    </u>	14. <u>    </u>	15. <u>    </u>	16. <u>    </u>	17. <u>    </u>	18. <u>    </u>	19. <u>    </u>
-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------	-----------------

## CRUSH PROFILE

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN INCHES.)

## HIGHEST DELTA "V"

20. <u>L</u>	21. <u>C<sub>1</sub></u>	<u>C<sub>2</sub></u>	<u>C<sub>3</sub></u>	<u>C<sub>4</sub></u>	<u>C<sub>5</sub></u>	<u>C<sub>6</sub></u>	22. <u>±D</u>
<u>048</u>	<u>00</u>	<u>02</u>	<u>06</u>	<u>10</u>	<u>12</u>	<u>06</u>	<u>⊕</u> <u>- 010</u>

## Second Highest Delta "V"

23. <u>L</u>	24. <u>C<sub>1</sub></u>	<u>C<sub>2</sub></u>	<u>C<sub>3</sub></u>	<u>C<sub>4</sub></u>	<u>C<sub>5</sub></u>	<u>C<sub>6</sub></u>	25. <u>±D</u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>+</u> <u>-</u>

26. Are CDCs Documented but Not Coded on The Automated File? 0  
(0) No  
(1) Yes

27. Researcher's Assessment of Vehicle Disposition 1  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

28. Original Wheelbase 099.9  
99.9 Code to the nearest tenth of an inch  
(9999) Unknown



29. Is This A Multi-Stage Manufactured Vehicle  
And/Or A Certified Altered Vehicle?

0

- (0) No post manufacturer modifications  
(1) Yes - post manufacturer modifications  
(specify): \_\_\_\_\_

\_\_\_\_\_  
(Include photograph of CERTIFICATION  
PLACARD in case report)

(9) Unknown if vehicle is modified

30. Fire Occurrence

0

(0) No fire

Yes, fire occurred

- (1) Minor  
(2) Major  
(9) Unknown

31. Origin of Fire

0

- (0) No fire  
(1) Vehicle exterior (front, side, back, top)  
(2) Exhaust system  
(3) Fuel tank (and other fuel retention  
system parts)  
(4) Engine compartment  
(5) Cargo/trunk compartment  
(6) Instrument panel  
(7) Passenger compartment area  
(8) Other location (specify): \_\_\_\_\_

(9) Unknown

32. Type of Fuel Tank

1

- (0) No fuel tank (electrical vehicle)  
(1) Metallic  
(2) Non-metallic  
(9) Unknown

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED AND WAS NOT AN AOPS \*\*\*  
(I.E., GV09 = 0 OR 9 AND GV36 = 0), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



# INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

## INTEGRITY

4. Passenger Compartment Integrity

(00) No integrity loss

Yes, Integrity Was Lost Through

(01) Windshield

(02) Door (side)

(03) Door/hatch (back door)

(04) Roof

(05) Roof glass

(06) Side window

(07) Rear window (backlight)

(08) Roof and roof glass

(09) Windshield and door (side)

(10) Windshield and roof

(11) Side and rear window (side window and backlight)

(12) Windshield and side window

(13) Door and side window

(98) Other combination of above (specify):

(99) Unknown

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 1 7. LR 1 8. RR 1 9. TG/H 0

(0) No door/gate/hatch

(1) Door/gate/hatch remained closed and operational

(2) Door/gate/hatch came open during collision

(3) Door/gate/hatch jammed shut

(8) Other (specify):

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09  $\neq$  2, Then code 0

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

(1) Door operational (no damage)

(2) Latch/striker failure due to damage

(3) Hinge failure due to damage

(4) Door structure failure due to damage

(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage

(6) Latch/striker and hinge failure due to damage

(8) Other failure (specify):

(9) Unknown

## GLAZING

Glazing Damage from Impact Forces

15. WS 2 16. LF 0 17. RF 0 18. LR 0 19. RR 0

20. BL 0 21. Roof 8 22. Other 8

(0) No glazing damage from impact forces

(2) Glazing in place and cracked from impact forces

(3) Glazing in place and holed from impact forces

(4) Glazing out-of-place (cracked or not) and not holed from impact forces

(5) Glazing out-of-place and holed from impact forces

(6) Glazing disintegrated from impact forces

(7) Glazing removed prior to accident

(8) No glazing

(9) Unknown if damaged

Glazing Damage from Occupant Contact

23. WS 2 24. LF 0 25. RF 0 26. LR 0 27. RR 0

28. BL 0 29. Roof 0 30. Other 0

(0) No occupant contact to glazing or no glazing

(1) Glazing contacted by occupant but no glazing damage

(2) Glazing in place and cracked by occupant contact

(3) Glazing in place and holed by occupant contact

(4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact

(5) Glazing out-of-place by occupant contact and holed by occupant contact

(6) Glazing disintegrated by occupant contact

(9) Unknown if contacted by occupant

If No Glazing Damage *And* No Occupant Contact or No Glazing, Then Code IV31 Through IV46 As 0

Type of Window/Windshield Glazing

31. WS 1 32. LF 2 33. RF 2 34. LR 2 35. RR 2

36. BL 2 37. Roof 0 38. Other 0

(0) No glazing contact and no damage, or no glazing

(1) AS-1 - Laminated

(2) AS-2 - Tempered

(3) AS-3 - Tempered-tinted

(4) AS-14 - Glass/Plastic

(8) Other (specify):

(9) Unknown

Window Precrash Glazing Status

39. WS 1 40. LF 2 41. RF 2 42. LR 2 43. RR 2

44. BL 1 45. Roof 0 46. Other 0

(0) No glazing contact and no damage, or no glazing

(1) Fixed

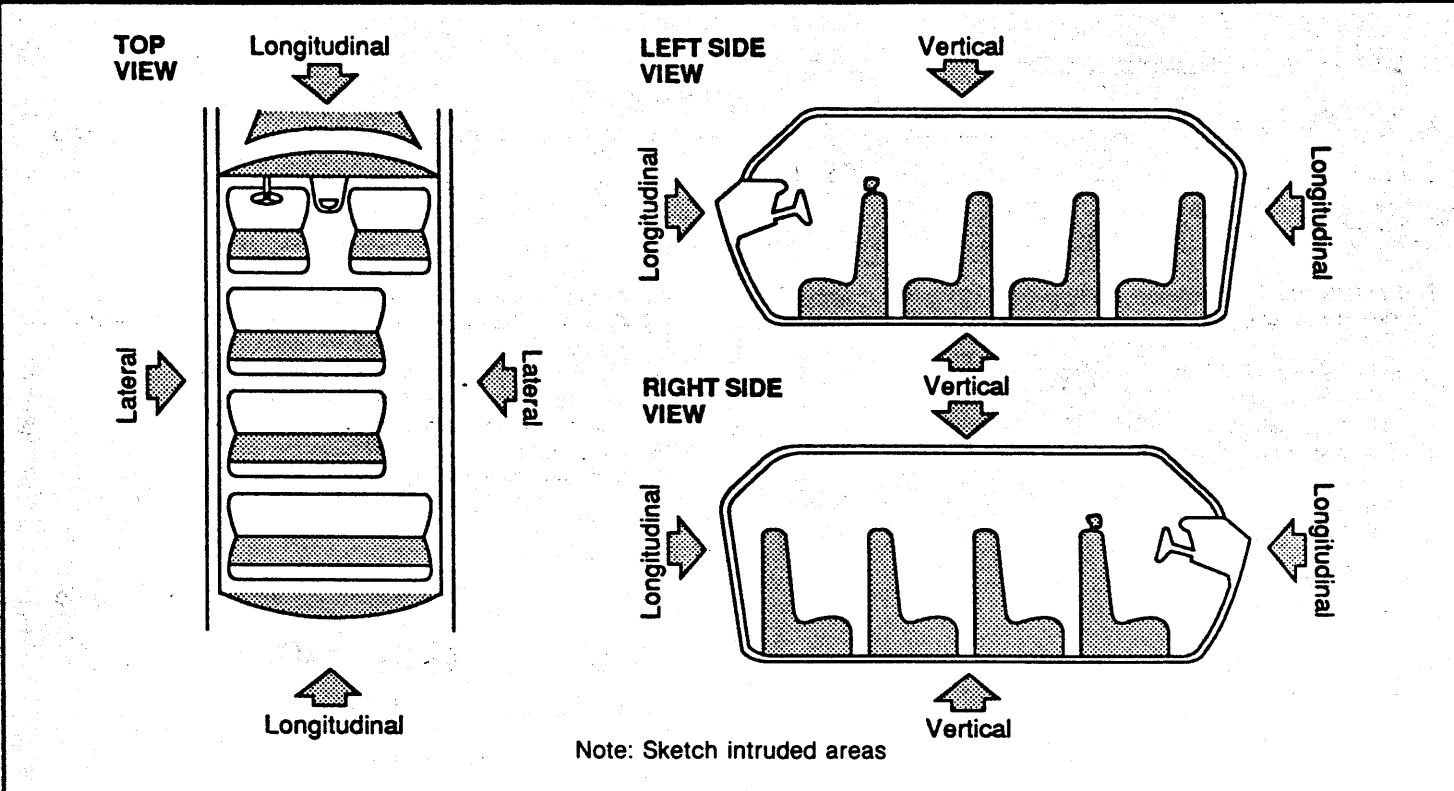
(2) Closed

(3) Partially opened

(4) Fully opened

(9) Unknown

## INTRUSION WORKSHEET



**Note: Sketch intruded areas**

[illegible]

**Document no more than the 15 most severe intrusions**

**OCCUPANT AREA INTRUSION**

Note: If no intrusions, leave variables IV47-IV86 blank.

**INTRUDING COMPONENT***Interior Components*

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel (side)
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan (includes sill)
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back door/panel (e.g., tailgate)
- (26) Other interior component (specify):

NO INTRUSION

- (27) Side panel - forward of the A-pillar
- (28) Side panel - rear of the A-pillar

*Exterior Components*

- (30) Hood
- (31) Outside surface of this vehicle (specify):
- (32) Other exterior object in the environment (specify):
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify):
- (99) Unknown

**LOCATION OF INTRUSION**

Front Seat  
 (11) Left  
 (12) Middle  
 (13) Right

Fourth Seat  
 (41) Left  
 (42) Middle  
 (43) Right

Second Seat  
 (21) Left  
 (22) Middle  
 (23) Right

(97) Catastrophic  
 (98) Other enclosed area (specify)

(99) Unknown

Third Seat  
 (31) Left  
 (32) Middle  
 (33) Right

**MAGNITUDE OF INTRUSION**

- (1)  $\geq 1$  inch but  $< 3$  inches
- (2)  $\geq 3$  inches but  $< 6$  inches
- (3)  $\geq 6$  inches but  $< 12$  inches
- (4)  $\geq 12$  inches but  $< 18$  inches
- (5)  $\geq 18$  inches but  $< 24$  inches
- (6)  $\geq 24$  inches
- (7) Catastrophic
- (9) Unknown

**DOMINANT CRUSH DIRECTION**

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

## STEERING RIM/SPOKE DEFORMATION

COMPARISON VALUE	DAMAGE VALUE	DEFORMATION

**STEERING COLUMN**

## 87. Steering Column Type

- (1) Fixed column  
 (2) Tilt column  
 (3) Telescoping column  
 (4) Tilt and telescoping column  
 (8) Other column type (specify):  
 \_\_\_\_\_

(9) Unknown

1

## 88. Blank

(This variable is left blank  
 so that numbering consistency  
 can be maintained with the  
 1988-91 CDS.

X X

## 89. Blank

(This variable is left blank  
 so that numbering consistency  
 can be maintained with the  
 1988-91 CDS.

X X X

## 90. Blank

(This variable is left blank  
 so that numbering consistency  
 can be maintained with the  
 1988-91 CDS.

X X X

## 91. Blank

(This variable is left blank  
 so that numbering consistency  
 can be maintained with the  
 1988-91 CDS.

X X X

## 92. Steering Rim/Spoke Deformation

325 Code actual measured

deformation to the nearest inch.

- (0) No steering rim deformation  
 (1-5) Actual measured value  
 (6) 6 inches or more  
 (8) Observed deformation cannot be measured  
 (9) Unknown

3

## 93. Location of Steering Rim/Spoke Deformation

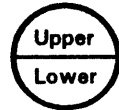
(00) No steering rim deformation

05*Quarter Sections*

- (01) Section A  
 (02) Section B  
 (03) Section C  
 (04) Section D

*Half Sections*

- (05) Upper half of rim/spoke  
 (06) Lower half of rim/spoke  
 (07) Left half of rim/spoke  
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse  
 (10) Undetermined location  
 (99) Unknown

**INSTRUMENT PANEL**

## 94. Odometer Reading

084,000

83678.5 miles—Code mileage to the nearest 1,000 miles

- (000) No odometer  
 (001) Less than 1,500 miles  
 (300) 299,500 miles or more  
 (999) Unknown

Source: \_\_\_\_\_

## 95. Instrument Panel Damage from Occupant Contact?

- (0) No  
 (1) Yes  
 (9) Unknown

1

## 96. Knee Bolsters Deformed from Occupant Contact?

- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

1

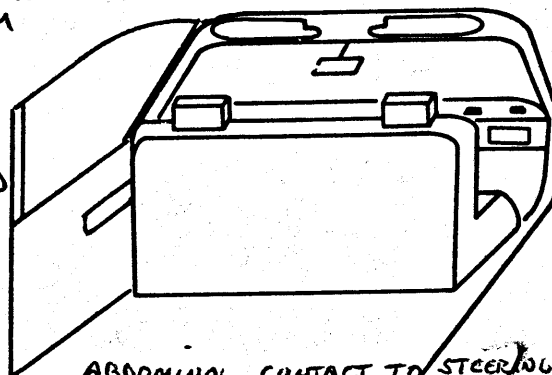
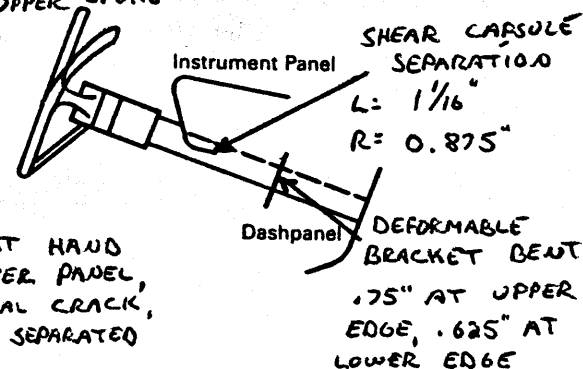
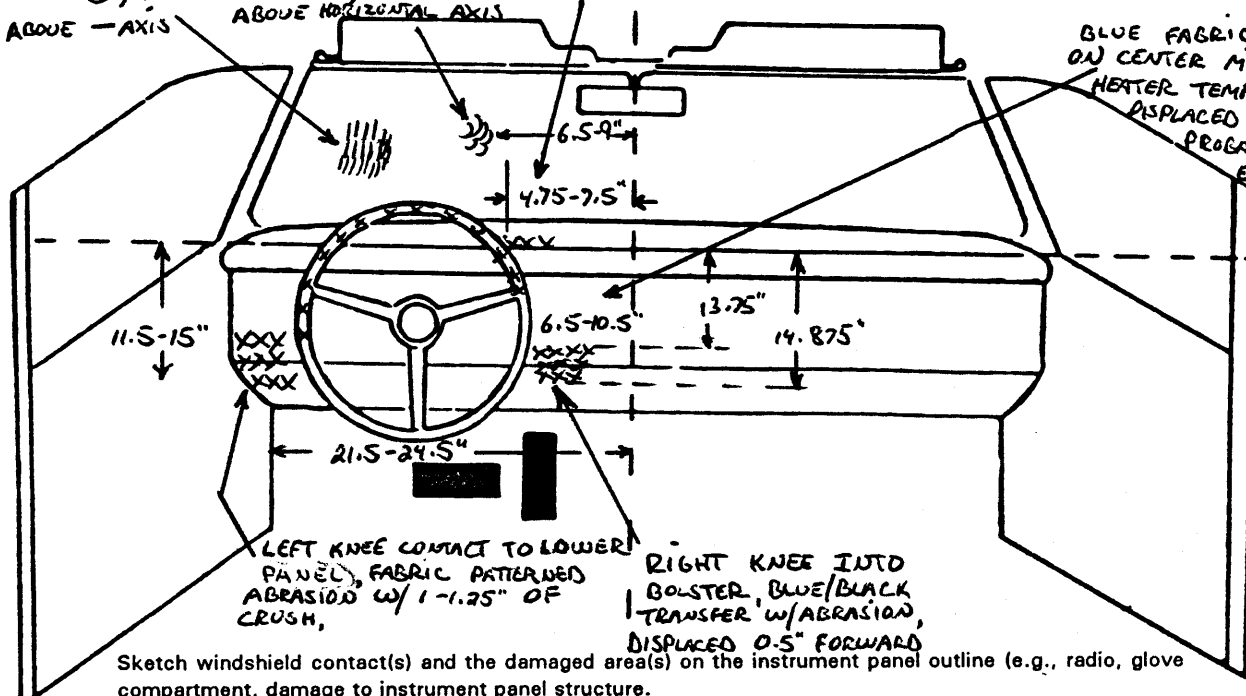
## 97. Did Glove Compartment Door Open During Collision(s)?

- (0) No WILL NOT CLOSE  
 (1) Yes POST-CRASH  
 (8) Not present  
 (9) Unknown

1

## VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment

NO LOADING EVIDENCE  
ON BELT SYSTEMDRIVER'S SEAT ROTATED  
~15° CCW BY CRASH  
FORCES, ADJUSTED  
3" REARWARD OF  
FULL FORWARD  
POSITIONABDOMINAL CONTACT TO STEERING WHEEL  
RIM, WHEEL PROBABLY ROTATED 180° AT  
TIME OF CONTACT  
UPPER STEERING WHEEL DISPLACED  
3.25" FORWARD, BENDING BEGINS 2" ABOVE  
LOWER (L) SPOKE, CONTINUES CW TO (R)  
UPPER SPOKEVERTICALLY ORIENTATED  
FABRIC (PROBABLE AIR  
BAG) TRANSFERS TO  
GLASS, 13-19" (L), 4.75-  
9.25" ABOVE - AXISAPPARENT TISSUE  
TRANSFER TO GLASS  
OR SKIN ON CHUOGE  
6.5-9" (L) 6.5-8.25"  
ABOVE HORIZONTAL AXISPROBABLE RIGHT HAND  
CONTACT TO UPPER PANEL,  
1.625" LONGITUDINAL CRACK,  
PADDING SLIGHTLY SEPARATED  
FROM PLASTICBLUE FABRIC TRANSFER  
ON CENTER MID PANEL  
HEATER TEMP. CONTRL  
DISPLACED TO RIGHT,  
PROBABLE (R)  
ELBOW CONTACTSketch windshield contact(s) and the damaged areas(s) on the instrument panel outline (e.g., radio, glove  
compartment, damage to instrument panel structure.

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	09	DRIVER	(C) KNEE	SCUFF/ABRASION WITH DEFORMATION	1
B	13	DRIVER	(R) KNEE	FABRIC TRANSFER W/ ABRASION	1
C	04	DRIVER	ABD/TORSO	3.25" OF RIM BENDING	1
D	07	DRIVER	ABD/TORSO	LOAD TRANSFER, 1.1" OF COMPRESSION	1
E	01	DRIVER	FACE	TISSUE OR SKIN OIL TRANSFER	1
F	10	DRIVER	(R) HAND	CRACK WITH DISPLACEMENT	1
G	10	DRIVER	ELBOW	FABRIC TRANSFER W/ BENDING OF	1
H				LEVER	
I					
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify): \_\_\_\_\_

## LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame

- (26) Left side window glass including one or more of the following: frame, window sill, A pillar, B pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_

- (28) Left side window sill

## RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A pillar, B pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_
- (38) Right side window sill

## INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify): \_\_\_\_\_
- (47) Interior loose objects

- (48) Child safety seat (specify): \_\_\_\_\_

- (49) Other interior object (specify): \_\_\_\_\_

## ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

## FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

## REAR

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown



## AUTOMATIC RESTRAINTS

**NOTES:** Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

### AIR BAGS

		Left	Right
F I R S T	Availability/Function		—
	Deployment		
	Failure		

#### Air Bag System Availability/Function

- (0) Not equipped/not available
- (1) Air bag

#### Non-functional

- (2) Air bag disconnected (specify): \_\_\_\_\_
- (3) Air bag not reinstalled
- (9) Unknown

#### Air Bag System Deployment

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

#### Did Air Bag System Fail?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_
- (9) Unknown

### AUTOMATIC BELTS

		Left	Right
F I R S T	Availability/Function	○	○
	Use	○	○
	Type	○	○
	Proper Use	○	○
	Failure Modes	○	○

#### Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

#### Non-functional

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

#### Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative)
- (3) Automatic belt use unknown
- (9) Unknown

#### Automatic (Passive) Belt System Type

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

#### Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

#### Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_
- (8) Other improper use of automatic belt system (specify): \_\_\_\_\_
- (9) Unknown

#### Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_
- (6) Broken retractor
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other automatic belt failure (specify): \_\_\_\_\_
- (9) Unknown

**MANUAL RESTRAINTS**

**NOTES:** Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
<b>FIRST</b>	Availability	4	-	4
	Use	04	-	-
	Failure Modes	1	-	-
<b>SECOND</b>	Availability	3	-	3
	Use	-	-	-
	Failure Modes	-	-	-
<b>THIRD</b>	Availability			
	Use			
	Failure Modes			
<b>OTHER</b>	Availability			
	Use			
	Failure Modes			

**Manual (Active) Belt System Availability**

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

**Integral Belt Partially Destroyed**

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown

**Manual (Active) Belt System Use**

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify): \_\_\_\_\_
- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown

**(08) Other belt used (specify):**

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat - type unknown
- (18) Other belt used with child safety seat (specify): \_\_\_\_\_
- (99) Unknown if belt used

**Manual (Active) Belt Failure Modes During Accident**

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_
- (6) Broken retractor
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other manual belt failure (specify): \_\_\_\_\_
- (9) Unknown

## CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

### 1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify): \_\_\_\_\_
- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

### 2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify): \_\_\_\_\_
- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify): \_\_\_\_\_
- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify): \_\_\_\_\_

(29) Unknown orientation

(99) Unknown if child safety seat used

### 3. Child Safety Seat Harness Usage

### 4. Child Safety Seat Shield Usage

### 5. Child Safety Seat Tether Usage

Note: Options Below Are Used for Variables 3-5.

(00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

### 6. Child Safety Seat Make/Model

(Specify make/model and occupant number)

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**HEAD RESTRAINTS/SEAT EVALUATION**

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
F I R S T	Head Restraint Type/Damage	3	-	3
	Seat Type	01	-	01
	Seat Performance	8	-	1
	Seat Orientation	1	-	1
S E C O N D	Head Restraint Type/Damage	0	0	0
	Seat Type	03	03	03
	Seat Performance	1	1	1
	Seat Orientation	1	1	1
T H I R D	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
O T H E R	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			

**Head Restraint Type/Damage by Occupant at This Occupant Position**

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other Specify: \_\_\_\_\_

(9) Unknown \_\_\_\_\_

**Seat Type (this Occupant Position)**

- (00) No seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): \_\_\_\_\_

(10) Box mounted seat (i.e., van type) \_\_\_\_\_  
 (99) Unknown

**Seat Performance (this Occupant Position)**

- (0) No seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed specify: \_\_\_\_\_
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other (specify): \_\_\_\_\_

TRACKS DEFORMED BY IMPACT FORCES

(9) Unknown

**Seat Orientation (this Occupant Position)**

- (0) No seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

**DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E., UNUSUAL OCCUPANT CONTACT PATTERN)**

**EJECTION/ENTRAPMENT DATA**

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

**EJECTION** No [☒] Yes [ ]

Describe indications of ejection and body parts involved in partial ejection(s):

---



---



---



---

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

**Ejection**

- (1) Complete ejection  
(1) Partial ejection  
(3) Ejection, Unknown degree  
(9) Unknown

**Ejection Area**

- (1) Windshield  
(2) Left front  
(3) Right front  
(4) Left rear  
(5) Right rear  
(6) Rear

**(7) Roof**

- (8) Other area (e.g., back of pickup, etc.) (specify):  
\_\_\_\_\_

**(9) Unknown****Ejection Medium**

- (1) Door/hatch/tailgate  
(2) Nonfixed roof structure  
(3) Fixed glazing  
(4) Nonfixed glazing (specify):  
\_\_\_\_\_

**(5) Integral structure**

- (8) Other medium (specify):  
\_\_\_\_\_

**(9) Unknown****Medium Status (Immediately Prior to Impact)**

- (1) Open  
(2) Closed  
(3) Integral structure  
(9) Unknown

**ENTRAPMENT** No [☒] Yes [ ]

Describe entrapment mechanism: \_\_\_\_\_

---



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Component(s): \_\_\_\_\_

(Note in vehicle interior diagram)

APPENDIX E

NASS Occupant Forms



## OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

11. Occupant Posture

(0) Normal posture

(1) Abnormal posture (specify):

FORWARD POSITION

(9) Unknown

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female

(9) Unknown

7. Occupant's Height

Code actual height to the nearest inch.

(99) Unknown

8. Occupant's Weight

Code actual weight to the nearest pounds.

(999) Unknown

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

10. Occupant's Seat Position

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

## EJECTION/ENTRAPMENT

12. Ejection

(0) No ejection

(1) Complete ejection

(2) Partial ejection

(3) Ejection, unknown degree

(9) Unknown

13. Ejection Area

(0) No ejection

(1) Windshield

(2) Left front

(3) Right front

(4) Left rear

(5) Right rear

(6) Rear

(7) Roof

(8) Other area (e.g., back of pickup, etc.)

(specify):

(9) Unknown

14. Ejection Medium

(0) No ejection

(1) Door/hatch/tailgate

(2) Nonfixed roof structure

(3) Fixed glazing

(4) Nonfixed glazing (specify):

(5) Integral structure

(8) Other medium (specify):

(9) Unknown

15. Medium Status (Immediately Prior To Impact)

(0) No ejection

(1) Open

(2) Closed

(3) Integral structure

(9) Unknown

16. Entrapment

(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)

(0) Not entrapped

(1) Entrapped

(9) Unknown

**RESTRAINT SYSTEM AND SEAT EVALUATION****17. Manual (Active) Belt System Availability** 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

**18. Manual (Active) Belt System Use** 04

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify): \_\_\_\_\_

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify): \_\_\_\_\_
- (99) Unknown if belt used

**19. Proper Use of Manual (Active) Belts** 8

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) PROBABLE SLACK IN BELT NO  
LOADING EVIDENCE ON BELT**20. Manual (Active) Belt Failure Modes During Accident** 1

- (0) No manual belt used
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

**21. Air Bag System Availability/Function** 1

- (0) Not equipped/not available
- (1) Air bag

*Non-functional*

(2) Air bag disconnected (specify): \_\_\_\_\_

(3) Air bag not reinstalled \_\_\_\_\_

(9) Unknown \_\_\_\_\_

**22. Air Bag System Deployment** 1

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

**23. Did Air Bag System Fail?** 1

- (0) Not equipped/not available
- (1) No ?
- (2) Yes (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts

**24. Police Reported Restraint Use** 4

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): \_\_\_\_\_

(8) Restrained, type unknown \_\_\_\_\_

(9) Police indicated "unknown"

**25. Head Restraint Type/Damage by Occupant at This Occupant Position** 3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_



26. Seat Type (this Occupant Position) 01
- (00) Occupant not seated or no seat
  - (01) Bucket
  - (02) Bucket with folding back
  - (03) Bench
  - (04) Bench with separate back cushions
  - (05) Bench with folding back(s)
  - (06) Split bench with separate back cushions
  - (07) Split bench with folding back(s)
  - (08) Pedestal (i.e., column supported)
  - (09) Other seat type (specify): \_\_\_\_\_
  - (10) Box mounted seat (i.e., van type)
  - (99) Unknown

27. Seat Performance (this Occupant Position) 8
- (0) Occupant not seated or no seat
  - (1) No seat performance failure(s)
  - (2) Seat adjusters failed
  - (3) Seat back folding locks or "seat back" failed
  - (4) Seat track/anchors failed
  - (5) Deformed by impact of occupant
  - (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_
  - (7) Combination of above (specify): \_\_\_\_\_
  - (8) Other (specify): TRACKS DEFORMED BY IMPACT FORCE,
  - (9) Unknown SEAT ROTATED ~15° CCW

**CHILD SAFETY SEAT**

28. Child Safety Seat Make/Model 000
- (000) No child safety seat
  - Applicable codes are found in your NASS CDS Data Collection, Coding and Editing
  - (950) Built-in child safety seat
  - (997) Other make/model (specify): \_\_\_\_\_
  - (998) Unknown make/model
  - (999) Unknown if child safety seat used
29. Type of Child Safety Seat 0
- (0) No child safety seat
  - (1) Infant seat
  - (2) Toddler seat
  - (3) Convertible seat
  - (4) Booster seat
  - (7) Other type child safety seat (specify): \_\_\_\_\_
  - (8) Unknown child safety seat type
  - (9) Unknown if child safety seat used

30. Child Safety Seat Orientation 00
- (00) No child safety seat
  - Designed for Rear Facing for This Age/Weight*
  - (01) Rear facing
  - (02) Forward facing
  - (08) Other orientation (specify): \_\_\_\_\_
  - (09) Unknown orientation
  - Designed For Forward Facing for This Age/Weight*
  - (11) Rear facing
  - (12) Forward facing
  - (18) Other orientation (specify): \_\_\_\_\_
  - (19) Unknown orientation
  - Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*
  - (21) Rear facing
  - (22) Forward facing
  - (28) Other orientation (specify): \_\_\_\_\_
  - (29) Unknown orientation
  - (99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 00
32. Child Safety Seat Shield Usage 00
33. Child Safety Seat Tether Usage 00
- Note: Options below applicable to Variables OA31-OA33.
- (00) No child safety seat

- Not Designed With Harness/Shield/Tether*
- (01) After market harness/shield/tether added, not used
  - (02) After market harness/shield/tether used
  - (03) Child safety seat used, but no after market harness/shield/tether added
  - (09) Unknown if harness/shield/tether added or used
- Designed With Harness/Shield/Tether*
- (11) Harness/shield/tether not used
  - (12) Harness/shield/tether used
  - (19) Unknown if harness/shield/tether used
- Unknown If Designed With Harness/Shield/Tether*
- (21) Harness/shield/tether not used
  - (22) Harness/shield/tether used
  - (29) Unknown if harness/shield/tether used
- (99) Unknown if child safety seat used

**INJURY CONSEQUENCES**34. Injury Severity (Police Rating) 4

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment - Mortality 1

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (8) Treatment - other (specify):

(9) Unknown

36. Type Of Medical Facility (for Initial Treatment) 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

37. Hospital Stay 00

- (00) Not Hospitalized

Code the number of days (up through 60) that the occupant stayed in hospital.

- (61) 61 days or more
- (99) Unknown

38. Working Days Lost 62

- Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
  - (61) 61 days or more
  - (62) Fatally injured
  - (97) Not working prior to accident
  - (99) Unknown

39. Time to Death 04

- Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
  - (96) Fatal - ruled disease
  - (99) Unknown

40. 1st Medically Reported Cause of Death 0141. 2nd Medically Reported Cause of Death 0042. 3rd Medically Reported Cause of Death 00

- Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
  - (97) Other result (specify):

(99) Unknown

43. Number of Recorded Injuries for This Occupant 06

- Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
  - (97) Injured, details unknown
  - (99) Unknown if injured

**AUTOMATIC BELT SYSTEM**44. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available  
 (1) 2 point automatic belts  
 (2) 3 point automatic belts  
 (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative  
 (9) Unknown

45. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative  
 (1) Automatic belt in use  
 (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):  
 (3) Automatic belt use unknown  
 (9) Unknown

46. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available  
 (1) Non-motorized system  
 (2) Motorized system  
 (9) Unknown

47. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used  
 (1) Automatic belt used properly  
 (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm  
 (4) Automatic shoulder belt worn behind back  
 (5) Automatic belt worn around more than one person  
 (6) Lap portion of automatic belt worn on abdomen  
 (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):  
 (8) Other improper use of automatic belt system (specify):  
 (9) Unknown

48. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use  
 (1) No automatic belt failure(s)  
 (2) Torn webbing (stretched webbing not included)  
 (3) Broken buckle or latchplate  
 (4) Upper anchorage separated  
 (5) Other anchorage separated (specify):  
 (6) Broken retractor  
 (7) Combination of above (specify):  
 (8) Other automatic belt failure (specify):  
 (9) Unknown

49. Seat Orientation (this Occupant Position) 1

- (0) Occupant not seated or no seat  
 (1) Forward facing seat  
 (2) Rear facing seat  
 (3) Side facing seat (inward)  
 (4) Side facing seat (outward)  
 (8) Other (specify):  
 (9) Unknown

**TRAUMA DATA**50. Glasgow Coma Scale (GCS) Score (at Medical Facility) 02

- (00) Not injured  
 (01) Injured - not treated at medical facility  
 (02) No GCS Score at medical facility  
 (03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
 (97) Injured, details unknown  
 (99) Unknown if injured

51. Was the Occupant Given Blood? 2

- (1) No - blood not given  
 (2) Yes - blood given (specify units):  
 (9) Unknown if blood given

52. Arterial Blood Gases (ABG) - HCO<sub>3</sub> 01

- (00) Not injured  
 (01) Injured, ABGs not measured or reported  
 (02-50) Code the actual value of the HCO<sub>3</sub>  
 (96) ABGs reported, HCO<sub>3</sub> unknown  
 (97) Injured, details unknown  
 (99) Unknown if injured

UPDATE CANDIDATE? NO ☒ YES [ ]OCCUPANT INJURY FORM INCLUDED WITH INITIAL SUBMISSION? NO [ ] YES ☒

\*\*\* STOP HERE \*\*\*  
 IF THERE ARE NO RECORDED INJURIES  
 (I.E., OA43 = 00,97,99)



# OCCUPANT INJURY FORM

1. <del>Primary Sampling Unit Number</del> _____	3. Vehicle Number <u>01</u>
2. Case Number - Stratum <u>92-04</u>	4. Occupant Number <u>01</u>

## INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	O.I.C.-A.I.S				Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No.	
		Body Region	Aspect	Lesion	System Organ					A.I.S. Severity
1st	5. <u>2</u>	6. <u>M</u>	7. <u>L</u>	8. <u>R</u>	9. <u>Q</u>	10. <u>3</u>	11. <u>04</u>	12. <u>1</u>	13. <u>1</u>	14. <u>00</u>
2nd	15. <u>2</u>	16. <u>C</u>	17. <u>L</u>	18. <u>C</u>	19. <u>I</u>	20. <u>1</u>	21. <u>45</u>	22. <u>1</u>	23. <u>1</u>	24. <u>00</u>
3rd	25. <u>2</u>	26. <u>C</u>	27. <u>R</u>	28. <u>C</u>	29. <u>I</u>	30. <u>1</u>	31. <u>45</u>	32. <u>1</u>	33. <u>1</u>	34. <u>00</u>
4th	35. <u>2</u>	36. <u>M</u>	37. <u>S</u>	38. <u>C</u>	39. <u>I</u>	40. <u>1</u>	41. <u>04</u>	42. <u>1</u>	43. <u>1</u>	44. <u>00</u>
5th	45. <u>2</u>	46. <u>F</u>	47. <u>I</u>	48. <u>A</u>	49. <u>I</u>	50. <u>1</u>	51. <u>45</u>	52. <u>1</u>	53. <u>1</u>	54. <u>00</u>
6th	55. <u>2</u>	56. <u>F</u>	57. <u>I</u>	58. <u>L</u>	59. <u>I</u>	60. <u>1</u>	61. <u>45</u>	62. <u>1</u>	63. <u>1</u>	64. <u>00</u>
7th	65. <u>  </u>	66. <u>  </u>	67. <u>  </u>	68. <u>  </u>	69. <u>  </u>	70. <u>  </u>	71. <u>  </u>	72. <u>  </u>	73. <u>  </u>	74. <u>  </u>
8th	75. <u>  </u>	76. <u>  </u>	77. <u>  </u>	78. <u>  </u>	79. <u>  </u>	80. <u>  </u>	81. <u>  </u>	82. <u>  </u>	83. <u>  </u>	84. <u>  </u>
9th	85. <u>  </u>	86. <u>  </u>	87. <u>  </u>	88. <u>  </u>	89. <u>  </u>	90. <u>  </u>	91. <u>  </u>	92. <u>  </u>	93. <u>  </u>	94. <u>  </u>
10th	95. <u>  </u>	96. <u>  </u>	97. <u>  </u>	98. <u>  </u>	99. <u>  </u>	100. <u>  </u>	101. <u>  </u>	102. <u>  </u>	103. <u>  </u>	104. <u>  </u>

AGE 57  
SEX Female  
WT. 150 lbs.  
HT. 66"

Laceration of the lower  
lip (AIS-1), air bag

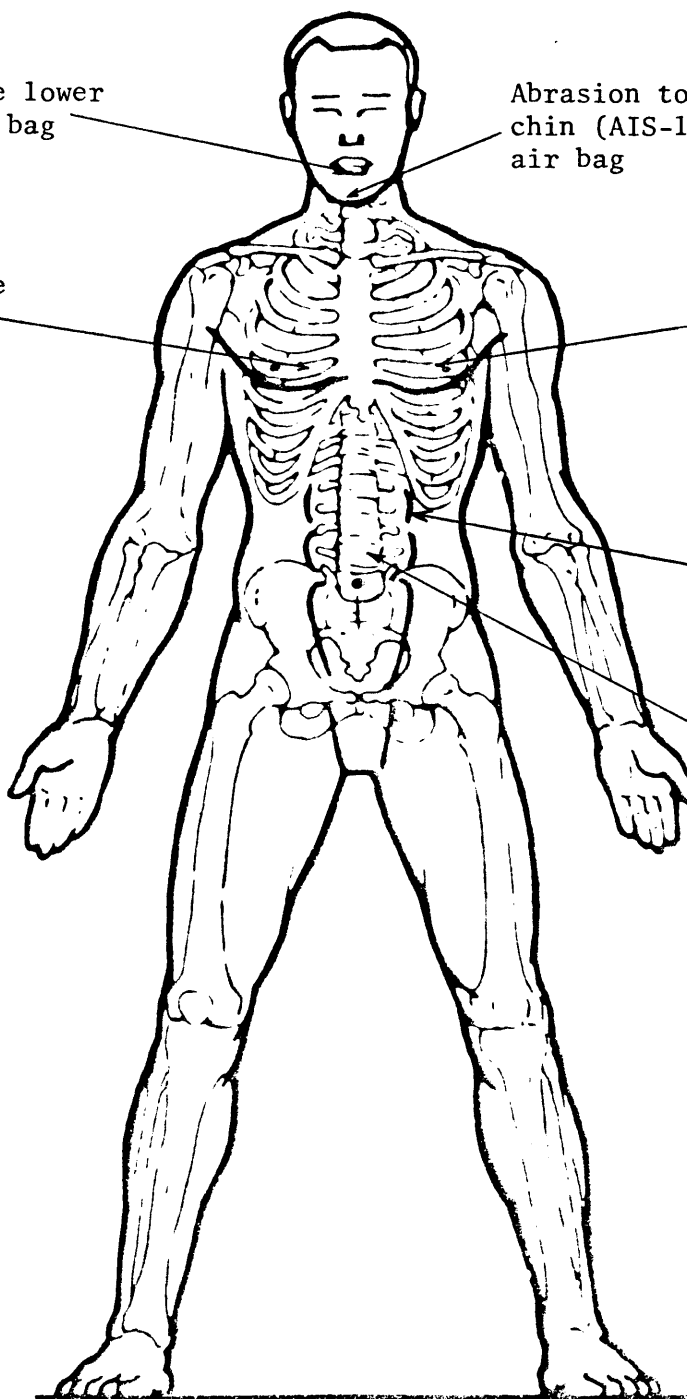
Abrasion to the  
chin (AIS-1),  
air bag

Ecchymosis of the  
right breast  
(AIS-1), air bag

5-7 cm contusion of  
the anterior left  
breast (AIS-1), air bag

Ruptured spleen with  
extensive hemorrhage  
(AIS-3), steering wheel  
rim

Ecchymosis of the upper  
abdomen (AIS-1), steering  
wheel rim



## SOURCE OF INJURY DATA

### OFFICIAL

- (1) Autopsy records with or without hospital medical records
- (2) Hospital medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

### UNOFFICIAL

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

## INJURY SOURCE

### FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify): \_\_\_\_\_

### LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame

- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_

- (28) Left side window sill

### RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A pillar, B pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_

- (38) Right side window sill

### INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify): \_\_\_\_\_
- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_
- (49) Other interior object (specify): \_\_\_\_\_

### ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

### FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

### REAR

- (60) Backlight (rear window)

- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

### EXTERIOR OF OCCUPANT'S VEHICLE

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

### EXTERIOR OF OTHER MOTOR VEHICLE

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_
- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_

- (79) Rear surface

- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_

- (83) Unknown exterior of other motor vehicle

### OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_
- (86) Unknown vehicle or object

### NONCONTACT INJURY

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_
- (93) Air bag exhaust gases
- (97) Injured, unknown source

## INJURY SOURCE CONFIDENCE LEVEL

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

## DIRECT/INDIRECT INJURY

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

## OCCUPANT INJURY CLASSIFICATION

### O.I.C. Body Region

- (M) Abdomen
- (Q) Ankle—foot
- (A) Arm (upper)
- (B) Back-thoracolumbar spine
- (C) Chest
- (E) Elbow
- (F) Face
- (R) Forearm
- (H) Head—skull
- (U) Injured, unknown region
- (K) Knee
- (L) Leg (lower)
- (Y) Lower limb(s) (whole or unknown part)
- (N) Neck—cervical spine
- (P) Pelvic—hip
- (S) Shoulder
- (T) Thigh
- (X) Upper limb(s) (whole or unknown part)
- (O) Whole body
- (W) Wrist—hand

### Aspect of Injury

- (A) Anterior—front
- (B) Bilateral (rib fracture only)
- (C) Central
- (I) Inferior—lower
- (U) Injured, unknown aspect
- (L) Left
- (P) Posterior—back
- (R) Right
- (S) Superior—upper
- (W) Whole region

### Lesion

- (A) Abrasion
- (M) Amputation
- (V) Avulsion
- (B) Burn
- (K) Concussion
- (C) Contusion
- (N) Crush
- (G) Detachment, separation
- (D) Dislocation

### Fracture

- (Z) Fracture and dislocation
- (U) Injured, unknown lesion
- (L) Laceration
- (O) Other
- (P) Perforation, puncture
- (R) Rupture
- (S) Sprain
- (T) Strain
- (E) Total severance, transection

### System/Organ

- (W) All systems in region
- (A) Arteries—veins
- (B) Brain
- (D) Digestive
- (E) Ears
- (O) Eye
- (H) Heart
- (U) Injured, unknown system
- (I) Integumentary
- (J) Joints
- (K) Kidney

### Liver

- (M) Muscles
- (N) Nervous system
- (P) Pulmonary—lungs
- (R) Respiratory
- (S) Skeletal
- (C) Spinal cord
- (Q) Spleen
- (T) Thyroid, other endocrine gland
- (V) Vertebrae

### Abbreviated Injury Scale

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity